

United States Department of the Interior Bureau of Land Management

Environmental Assessment
DOI-BLM-UT-G010-2012-174-EA

August 2012

November 2012 Oil and Gas Lease Sale

Location: Vernal Field Office
Uintah County, Utah

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1.0 PURPOSE & NEED

1.1 Introduction

The Bureau of Land Management (BLM) has prepared this environmental assessment (EA) to disclose and analyze the environmental consequences of the sale of six parcels during the November 2012 oil and gas lease sale and subsequent potential development. The EA is a site-specific analysis of potential impacts that could result from the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any significant impacts could result from the analyzed actions. *Significance* is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of Finding of No Significant Impact (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects) beyond those already addressed in the Vernal Field Office Resource Management Plan (VFO RMP; BLM, 2008). If the decision maker determines that this project has significant impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative.

1.2 Background

Forty nominated parcels within the jurisdiction of the Vernal Field Office were proposed for sale in the November 2012 Oil and Gas Lease Sale to be held at the Utah BLM State Office. Of those 40, 34 have been deferred from consideration during the preparation of this document. The surface and mineral rights for the remaining six parcels (with the exception of the surface rights on split-estate portions of parcel UT1112-5964-37—refer to Appendix B) are owned by the federal government and administered by the VFO (see Appendix A, November 2012 Preliminary Oil and Gas Lease Sale List; and Appendix B, Maps of Parcels)

In general, the BLM USO conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a draft parcel list to the appropriate District Office where the parcels are located. District and Field Office staff then review and verify that the parcels are in areas available for leasing; any new information that has become available, or any circumstances that have changed, are assessed to determine what level of analysis is required; appropriate stipulations and notices have been included; appropriate consultations have been conducted, when necessary; and any special resource conditions are identified for potential bidders. The Field Office then either determines that existing analyses provide an adequate basis for leasing recommendations or that additional NEPA analysis is needed before making a leasing recommendation.

In most instances an EA will be initiated for the parcels within the District or Field Office to meet the requirements of WO IM 2010-117. This EA is being used to determine the necessary administrative actions, stipulations, lease notices, special conditions, or restrictions that would be made a part of an actual lease at the time of issuance. The EA is made available to the public for a 30-day public comment period on the BLM webpage. After analyzing and incorporating all substantive comments received during the public comment period, changes to the document and/or lease parcels list are made if necessary. The document is made available with a Decision for the 30-day protest period, which ends 60 days before the scheduled lease sale. A list of available lease parcels and stipulations is made available to the public through a Notice of Competitive Lease Sale (NCLS). Lease stipulations and notices applicable to each parcel are specified in the sale notice. Under all alternatives, continued interdisciplinary support and consideration would be required to ensure on the ground implementation of planning objectives, including the proper implementation of stipulations, lease notices and Best Management Practices (BMPs) through the APD process.

1.3 Purpose and Need of the Proposed Action

The parcels proposed for leasing were nominated by the public. The need for the sale is to respond to the public's nomination requests. Offering parcels for competitive oil and gas leasing provides for the orderly development of fluid mineral resources under BLM's jurisdiction in a manner consistent with multiple use management and environmental consideration for the resources that may be present. The purpose of the sale is to ensure that adequate provisions are included in the lease stipulations to protect public health and safety and assure full compliance with the objectives of NEPA and other federal environmental laws and regulations designed to protect the environment and mandating multiple use of public lands. The sale and development of oil and gas leases is needed to meet the growing energy needs of the United States public. The BLM is required by law to review areas that have been nominated. Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of the Federal Land Policy and Management Act of 1976 (FLPMA), and it is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). Leases would be issued pursuant to 43 CFR subpart 3100.

1.4 Conformance with BLM Land Use Plan

The Proposed Action and No Action alternatives described below are in conformance with VFO RMP (BLM, 2008) because they are specifically provided for in the planning decision. They conform to the following LUP decisions:

- The ROD for the VFO RMP/FEIS decisions MIN 6 – MIN 14 (pages 98-99) identifies those specific lands within the Vernal Field Office that are available for leasing as illustrated on its corresponding Oil and Gas Leasing map (Figure 8a).
- Appendices K (Surface Stipulations to all Surface Disturbing Activities), L (Utah's T&E and Special Status Species Lease Notices for Oil and Gas and BLM Committed Measures) and R (Fluid Mineral Best Management Practices) of the Vernal RMP/ROD contain pertinent stipulations, lease notices and committed measures.

It is also consistent with RMP decisions and their corresponding goals and objectives related to the management of air quality, cultural resources, recreation, riparian, soils, water, vegetation, fish & wildlife and Area of Critical Environmental Concern (ACEC)s.

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, June 1988 or later edition). Compliance with valid, nondiscretionary statutes (laws) is included in the standard lease terms. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, Endangered Species Act, National Historic Preservation Act, and Federal Land Policy Management Act, which are applicable to all actions on federal lands.

Once the lease has been issued, the lessee has the right to use as much of the leased land as necessary, subject to any restrictions attached to the lease, to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands. Even if no restrictions are attached to the lease, the operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment and minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Also included in all leases are the two mandatory stipulations for the statutory protection of cultural resources (BLM Washington Office Instruction Memorandum No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened or endangered species (BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), described in Sections 4.3.1.1 and 4.3.1.4, respectively. BLM would also encourage industry to consider participating in EPA's Natural Gas STAR program under all alternatives. The program is a flexible, voluntary partnership between EPA and the oil and natural gas industry wherein EPA works with companies that produce, process, transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a greenhouse gas.

1.5 Relationship to Statutes, Regulations, or Other Plans

The proposed action is consistent with federal environmental laws and regulations, Executive Orders, and Department of Interior and the BLM policies and is in compliance, to the maximum extent possible, with state laws and local and county ordinances and plans to the maximum extent possible, including the following:

- Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776, 43 U.S.C. 1761) and the regulations issued there under at 43 Code of Federal Regulations, part 2800.
- Taylor Grazing Act of 1934
- Utah Standards and Guidelines for Rangeland Health (1997)
- BLM Utah Riparian Management Policy
- Section 106 of the National Historic Preservation Act of 1966, as amended and associated regulations at 36 CFR Part 800
- Bald and Golden Eagle Protection Act of 1962
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended.
- BLM Manual 6840- Special Status Species Management
- Migratory Bird Treaty Act

- Utah Partners in Flight Avian Conservation Strategy Version 2.0.
- Birds of conservation concern 2002
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- MOU between the USDI BLM and USFWS to Promote the Conservation and Management of Migratory Birds (4/2010)
- Utah Supplemental Planning Guidance: Raptor Best Management Practices (BLM UT SO IM 2006-096)
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (U.S. Department of Interior, Bureau of Land Management, June 2007)
- Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews (BLM WO IM 2010-117)
- MOU Among the USDA, USDI and EPA Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process (2011)
- Greater Uinta Basin Oil and Gas Technical Support Document (2012)

The attached Interdisciplinary Team Checklist, Appendix C, was developed after consideration of these laws, ordinances, and plans.

1.6 Identification of Issues

The proposed action was reviewed by an interdisciplinary parcel review (IDPR) team composed of resource specialists from the Vernal Field Office. This team identified resources in the parcel areas which might be affected and considered potential impacts using current office records and geographic information system (GIS) data, and site visits. Notice of the lease sale, parcel locations and site visit date was also provided to the superintendents of Dinosaur National Monument. The same notice and coordination efforts were also conducted with the US Fish and Wildlife Service, the State of Utah's Public Land Policy Coordination Office, and the US Forest Service. The interdisciplinary team conducted site visits to validate existing data and gather new information in order to make an informed leasing recommendation during April and May, 2012. The results of the interdisciplinary team review are contained in the Interdisciplinary Team Checklist, Appendix C.

Public notification was initiated by entering the project information on the Environmental Notification Bulletin Board (ENBB¹), a BLM environmental information internet site on March 29, 2012. The EA and unsigned FONSI were also posted for public review and comment from June 22, 2012 to July 23, 2012. The protest period for the November 2012 Oil and Gas Lease Sale will run from August 14, 2012 through September 13, 2012. Additional information for the public is maintained on the Utah BLM Oil and Gas Leasing Webpage².

¹ Accessed online at: <https://www.blm.gov/ut/enbb/index.php>

² Accessed online at: http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html

1.7 Summary

This chapter has presented the purpose and need of the proposed project, as well as resources that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This environmental assessment focuses on the Proposed Action and No Action alternatives. Other alternatives were not considered in detail because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the Proposed Action. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

2.2 Alternative A – Proposed Action

Six parcels would be offered for sale in the November 2012 Oil and Gas Lease Sale, to be held at the Utah BLM State Office, with additional resource protection measures attached consistent with the VFO RMP (BLM, 2008). Legal descriptions of and stipulations and notices attached to each parcel can be found in Appendix A, and maps of the parcels can be found in Appendix B.

Leasing is an administrative action that affects economic conditions but does not directly cause environmental consequences. However, leasing is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the planning area. Direct, indirect or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development.

Although at this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel, should a lease be issued, site specific analysis of individual wells or roads would occur when a lease holder submits an APD (Application for Permit to Drill). In general activities are anticipated to take place as described in the following sections.

2.2.1 Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to a maximum depth of six inches and stockpiled for future reclamation. Disturbance for each well pad would be estimated at an area of approximately 350 feet by 250 feet (~2 acres of land), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as 6 acres per well to account for any infrastructure (e.g., gas pipelines) that would be required if the wells were to go into production (see below).

It is anticipated that new or upgraded access roads would be required to access well pads and maintain production facilities. Construction of new roads or upgrades to existing roads would require a 30-foot construction width and would be constructed of native material. Any new roads constructed for the purposes of oil and gas development would be utilized year-round for maintenance of the proposed wells and other facilities, and for the transportation of fluids and/or equipment, and would remain open to other land users. The type of equipment required for these activities would be the same as that needed for well pad construction. It is not possible to determine the distance of road that would be required because the location of the wells would not be known until the APD stage. However, for purposes of analyses it is assumed that disturbance from access roads would be approximately 1.8 acres of disturbance for each well (0.5 mile of road/well).

2.2.2 Production Operations

If wells were to go into production, facilities would be located at the well pad and typically include a well head, a dehydrator/separator unit, and storage tanks for produced fluids. The production facility would typically consist of two storage tanks, a truck load-out, separator, and dehydrator facilities. Construction of the production facility would be located on the well pad and not result in any additional surface disturbance.

All permanent surface structures would be painted a flat, non-reflective color (e.g., juniper green) specified by the BLM in order to blend with the colors of the surrounding natural environment. Facilities that are required to comply with the Occupational Safety and Health Act (OSHA) will be excluded from painting color requirements. All surface facilities would be painted immediately after installation and under the direction and approval of the BLM.

If oil is produced, the oil would be stored on location in tanks and transported by truck to a refinery. The volume of tanker truck traffic for oil production would be dependent upon production of the wells, however, it is estimated oil would be transported to a Salt Lake City refinery at least once a week, using 280-barrel tanker trucks.

If natural gas is produced, construction of a gas sales pipeline would be necessary to transport the gas. An additional Sundry Notice, right of way (ROW) and NEPA analysis would be completed, as needed, for any pipelines and/or other production facilities across public lands. BLM BMPs (Best Management Practices), such as burying the pipeline or installing the pipeline within the road, would be considered at the time of the proposal. For the purpose of this EA, it is assumed that 0.5 mile of pipeline would be installed within the 30-foot road width.

All operations would be conducted following the “Gold Book” Surface Operating Standards for Oil and Gas Exploration and Development. The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Exploration and development on split-estate lands is also addressed in the Gold Book, along with IM 2003-131, Permitting Oil and Gas on Split-Estate Lands and Guidance for Onshore Oil and Gas Order No. 1, and IM 2007-165, Split-Estate Report to Congress – Implementation of Fluid Mineral Leasing and Land Use Planning Recommendations. Proper planning and consultation, along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations by the operator, will typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

2.2.3 Interim Reclamation

All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days (weather permitting or within one evaporation cycle i.e. one summer), the fluid would be pumped from the pit and disposed of in accordance with applicable regulations. Portions of the well pad not needed for production of the proposed well, including the reserve pit, would be recontoured, and topsoil would be replaced, scarified, and seeded within 180 days of the plugging the well. The 30-foot road construction width would be reclaimed to an 18-foot wide crowned running surface plus drainage ditches. The topsoil would be spread over the interim reclamation area, seeded, left in place for the life of the well, and then used during the final reclamation process. Reclaimed land would be seeded with a mixture (certified weed free) and rate as recommended or required by the BLM.

2.2.4 Produced Water Handling

Water is often associated with either produced oil or natural gas. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include discharge to evaporation pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7.

2.2.5 Maintenance Operations

Traffic volumes during production would be dependent upon whether the wells produced natural gas and/or oil, and for the latter, the volume of oil produced.

Well maintenance operations may include periodic use of work-over rigs and heavy trucks for hauling equipment to the producing well, and would include inspections of the well by a pumper on a regular basis or by remote sensing. The road and the well pad would be maintained for reasonable access and working conditions.

2.2.6 Plugging and Abandonment

If the wells do not produce economic quantities of oil or gas, or when it is no longer commercially productive, the well would be plugged and abandoned. The wells would be plugged and abandoned following procedures approved by a BLM Petroleum Engineer, which would include requiring cement plugs at strategic positions in the well bore. All well pads would be reclaimed according to the standards established in the Green River District Reclamation Guidelines.

2.3 Alternative B – No Action

Under the No Action alternative none of the nominated parcels would be offered for sale.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix C. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4. Only those aspects of the affected environment that are potentially impacted are described in detail (see Appendix C).

3.2 General Setting

The proposed action would result in the leasing of six parcels for oil and gas development. Five of the parcels are located on BLM administered lands. The remaining parcel is on private surface with 50% federal mineral interest. See Appendix A for legal descriptions.

Parcel 15

This parcel is located near the junction of Gate Canyon and Nine Mile Canyon. The parcel is located within the Nine Mile Canyon Area of Critical Environmental Concern (ACEC). If leased, less than 20 acres of BLM surface would be available for surface use. The rest of the parcel falls within the No Surface Occupancy (NSO) area of the ACEC.

Parcel 25

This parcel is located near Kings Canyon on lands administered by the BLM. The landscape consists of rolling hills covered by shrubs and grasses. The north east corner of this parcel has a mapped flood plain in it.

Parcel 32

This parcel is located approximately 1 mile north east of Ouray National Wildlife Refuge on the east side of the Green River. This parcel is on lands administered by the BLM. The landscape varies from plains to rolling hills covered in grasses and shrubs. No major drainage or floodplains crosses the parcel.

Parcel 37

This parcel is private land with a 50% federal mineral interest located next to the Deseret Power Plant. The surface is occupied by private pond that is used by Deseret Power Plant.

Parcel 40

This parcel is located next to the Colorado border on lands that are administered by the BLM. The landscape consists of ridge tops and drainage bottoms. The ridge tops are covered by juniper trees and the drainage bottoms are covered with shrubs. No major drainages or floodplains cross this parcel.

Parcel 42

This parcel is located in Browns Park on lands administered by the BLM. The landscape is rolling hills with the vegetation being mostly juniper trees. No major drainages or floodplains cross this parcel.

3.3 Resources/Issues Brought Forward for Analysis

3.3.1 Air Quality

The Project Area is located in the Uinta Basin, a semiarid, mid-continental climate regime typified by dry, windy conditions and limited precipitation. The Uinta Basin is subject to abundant sunshine and rapid nighttime cooling. Wide seasonal temperature variations typical of a mid-continental climate regime are also common. Existing point and area sources of air pollution within the Uinta Basin include the following:

- Exhaust emissions (primarily CO, NO_x, PM_{2.5}, and HAPs) from existing natural gas fired compressor engines used in transportation of natural gas in pipelines;
- Natural gas dehydrator still-vent emissions of CO, NO_x, PM_{2.5}, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NO_x, CO, SO₂, PM₁₀, and PM_{2.5};
- Oxides of sulfur (SO_x), NO_x, and fugitive dust emissions from coal-fired power plants and coal mining and processing;
- Fugitive dust (in the form of PM₁₀ and PM_{2.5}) from vehicle traffic on unpaved roads, wind erosion in areas of soil disturbance, and road sanding during winter months; and
- Long-range transport of pollutants from distant sources.

The Uinta Basin is designated as unclassified under the Clean Air Act, meaning that adequate air monitoring is not available to make an attainment determination. NAAQS are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone (O₃) sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM₁₀) or 2.5 microns in diameter (PM_{2.5}). Airborne particulate matter (PM) consists of tiny coarse-mode (PM₁₀) or fine-mode (PM_{2.5}) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. PM_{2.5} is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM₁₀ is primarily from crushing, grinding, or abrasion of surfaces.

The Utah Division of Air Quality (UDAQ) estimates background air quality as guidance for regulatory modeling of permitted sources to insure NAAQS compliance. These background values are used in dispersion models which need a background value to add to a proposed point sources emissions so that an evaluation can be made on whether the source will meet NAAQS. These background estimates are based on monitored values when possible and on default factors when monitoring data does not exist. UDAQ does not estimate ozone and PM_{2.5} background values, as the models used to determine impacts from these pollutants estimate background as part of the overall modeling calculations. **Table 1** lists the latest regulatory background values from UDAQ for the Uinta Basin.

Table 1. Ambient Criteria Pollutant Concentrations in the Uinta Basin

Pollutant	Averaging Period(s)	Uinta Basin Background Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
SO ₂	Annual	5	80
	24-hour	10	365
	3-hour	20	1,300
NO ₂	Annual	17	100
PM ₁₀	24-hour	28	150
CO	8-hour	1,111	10,000
CO	1-hour	1,111	40,000

Ground-level ozone (O₃) is a secondary pollutant that is formed by a chemical reaction between NO_x and VOCs in the presence of sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Ozone is generally known as a summertime air pollutant. Ozone is a regional air quality issue because, along with its precursors, it transports hundreds of miles from its origins. Maximum ozone levels may occur at locations many miles downwind from the sources.

The National Park Service operates an ozone monitor in Dinosaur National Monument during the summer months. No exceedances of the current ozone NAAQS have been recorded at this site. Active year-round ozone monitoring in the Uinta Basin began in the summer of 2009 south of Vernal at two monitoring sites: Red Wash and Ouray. While the monitors are not Federal Reference Monitors (used for making attainment/nonattainment designations), the data is considered viable and representative of the area. Both of these monitoring sites have recorded numerous exceedances of the 8 hour ozone standard during the winter months (January through March). High concentrations of ozone are being formed under a “cold pool” process whereby stagnate air conditions with very low mixing heights form under clear skies with snow-covered ground and abundant sunlight that, combined with area precursor emissions (NO_x and VOCs), create intense episodes of ozone. Based on the monitoring to date, these episodes occur only during the winter months (January through March). This phenomenon has also been observed in similar types of locations in Wyoming and has contributed to a proposed nonattainment designation for Sublette County.

Winter ozone formation is a newly recognized issue, and the methods of analyzing and managing this problem are still in development. Existing photochemical models are currently unable to replicate winter ozone formation satisfactorily, in part due to the very low mixing heights associated with the unique meteorology of these ambient conditions. Based on the emission inventories developed for Uintah County, the most likely dominant source of ozone precursors in the Uinta Basin are oil and gas operations in the vicinity of the monitors. While ozone precursors can be transported large distances, the meteorological conditions under which this cold pool ozone formation is occurring tends to preclude transport. At the current time ozone exceedances in this area seem to be confined to the winter months during periods of intense surface inversions and low mixing heights. Work still remains to be done to definitively identify the sources of ozone precursors contributing to the observed ozone concentrations. In particular, speciation of gaseous air samples collected during periods of high ozone is needed to determine which VOCs are present and what their likely sources are.

The complete EPA Ouray and Redwash monitoring data can be found at:

<http://www.epa.gov/airexplorer/index.htm>

The complete NPS Dinosaur National Monument monitoring data can be found at:

<http://www.nature.nps.gov/air/Monitoring/MonHist/index.cfm>

The UDAQ conducted limited monitoring of PM_{2.5} in Vernal, Utah in December 2006. During the 2006-2007 winter seasons, PM_{2.5} levels were measured at the Vernal monitoring station that were higher than the PM_{2.5} health standard that became effective in December 2006. The PM_{2.5} levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The sources of elevated PM_{2.5} concentrations during winter inversions in Vernal, Utah haven't been identified as of yet. The most likely causes of elevated PM_{2.5} at the Vernal monitoring station are probably those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin. PM_{2.5} monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin by the Red Wash and Ouray monitors beginning in summer 2009 have not recorded any exceedences of either the 24 hour or annual NAAQS. Monitoring for PM_{2.5} is currently ongoing in the Uinta Basin.

HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. Examples of listed HAPs associated with the oil and gas industry include formaldehyde, benzene, toluene, ethylbenzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

3.3.2 BLM Sensitive Plant Species

Horseshoe Milkvetch (Astragalus equisolensis)

Horseshoe milkvetch is a Utah BLM sensitive plant species (former candidate for federal listing) narrowly endemic to two known locations, one being the Horseshoe Bend area of the Green River in Uintah County, Utah, and the other being the rim above the Deloris River in Mesa County, Colorado. This member of the pea family is a small herbaceous perennial, producing 4 to 13 purplish pea-type flowers from April to May and later, hairy curled seed pods.

Horseshoe milkvetch grows in mixed desert and salt desert shrub communities and occurs on three types of substrate: 1) river terrace sands and gravels overlying the Duchesne River Formation; 2) sandy-silty soils that weather directly from the Duchesne River Formation; 3) and in crevices of Duchesne River Formation.

Potential habitat for the species has been identified based upon underlying geologic and soil data within parcel 032.

Hamilton Milkvetch (Astragalus hamiltonii)

Hamilton's milkvetch is a Utah BLM sensitive plant endemic to the Uinta Basin in Uintah County Utah. This member of the bean family is a perennial herb, up to 23 inches tall, and produces white to cream colored flowers from late spring to early summer. Hamilton's milkvetch inhabits desert shrub and pinyon-juniper communities growing primarily on the Duchesne River formation.

Potential habitat for the species has been identified based upon underlying geologic and soil data within parcel 032.

Barneby's catseye (Cryptantha barnebyi)

Barneby's catseye is a Utah BLM sensitive plant species, endemic to the Uinta Basin. This member of the borage family is a perennial herb growing 15 to 35 cm tall, covered in yellow-bristly hairs. Flowers develop from May to June. The species grows on white shale knolls of the Green River formation in association with shadscale, rabbitbrush, sagebrush, and pinyon-juniper plant communities at 5,000 to 7,900 feet elevation.

Potential habitat for the species has been identified based upon underlying geologic and soil data within parcel 040.

Graham's catseye (Cryptantha grahamii)

Barneby's catseye is a Utah BLM sensitive plant species, endemic to the Uinta Basin. This member of the borage family is a perennial herb growing 15 to 25 cm tall. White flowers develop from May to June. The species grows on shale outcrops of the Green River formation in association with mixed desert shrub, sagebrush, pinyon-juniper, and mountain brush communities at 5,000 to 7,400 feet in elevation.

Potential habitat for the species has been identified based upon underlying geologic and soil data within the following federal surface parcel: 025.

Goodrich Penstemon (Penstemon goodrichii)

Goodrich penstemon is a Utah BLM sensitive plant species, endemic to the Uinta Basin. This member of the plantain family (formally a member of the figwort family) is a small perennial herb arising from a branching caudex growing to a height of 40 centimeters. The species produces blue to blue-lavender flowers with violet guidelines in the throat.

Goodrich penstemon grows in cobbly sand or clay badlands and hills associated with the Duchesne River Formation within the salt desert scrub or pinyon-juniper communities.

Potential habitat for the species has been identified based upon underlying geologic and soil data within parcel 032.

Townsendia strigosa var. *prolixa*

Townsendia strigosa var. *prolixa* is a Utah BLM sensitive plant species. This species is a stemmed, biennial member of the sunflower family. The species produces white to pink flowers from May to June. This species is relatively new to the UT BLM sensitive plant species list and as such has not been extensively surveyed for nor is the range and habitat requirements fully understood. Therefore, at this time, all proposed parcels have to be assumed to be potential habitat for the species.

Yucca sterilis

Yucca sterilis is a Utah BLM sensitive plant species, apparently endemic to the Uinta Basin. This member of the asparagus family (formally a member of the agave family) is perennial subshrub that arises from a deep-seated horizontal rhizome. The plant produces white flowers that are not known to produce viable seed. Known occurrences of the species are found growing in sandy soils. However, this species is relatively new to the UT BLM sensitive plant species list and as such has not been extensively surveyed for nor is the range and exact habitat requirements fully understood. Therefore, at this time, any sandy soils within the proposed parcels have to be assumed to be potential habitat for the species.

3.3.3 Fish and Wildlife Excluding U.S. Fish and Wildlife Service Designated Species

General Wildlife

Several species occur within the parcels, such as small mammals, birds, raptors, and snakes. The documented or potential occurrence of important habitat values for fish and wildlife is shown in **Table 2**, below. In general the parcels contain shrub steppe, semi-desert and desert vegetation types (salt-desert shrub vegetative community) or agricultural land that provides habitat for a variety of wildlife species including the cottontail rabbit, black-tailed jackrabbit, coyote, red fox, badger, striped skunk, and various species of amphibians and rodents. Although all of these species are essential members of wildlife ecosystems, most are common and have widespread distributions within the parcels including the surrounding region. Consequently, the relationship of most of these species within the parcels are not discussed in the same depth as species that are threatened, endangered, sensitive, of special economic interest, or are otherwise of high public interest or unique value; however impacts to these species would be similar in nature to those of special status species.

Raptors

Special status raptor species are addressed in section 3.3.5. Common raptors, including the red-tailed hawk, Cooper's hawk, sharp-shinned hawk, American kestrel, northern harrier, great horned owl, and other less common species utilize each of the habitat types within the lease parcels and may be present year round or seasonally. Nesting tends to be concentrated around cliffs, large trees, embankments, and other habitat features. Raptor management is guided by BLM's Best Management Practices for Raptors and Their Associated Habitats in Utah (2006). These are best management practices which are BLM-specific recommendations for implementation of the U.S. Fish and Wildlife Service, Utah Field Office's "Guidelines for Raptor Protection from Human and Land Use Disturbances" (Guidelines). The Guidelines were originally developed by the Fish and Wildlife Service in 1999, and were updated in 2002 based on recent court rulings, policy decisions, and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The Guidelines were provided to BLM and other land-managing agencies to provide raptor management consistency while ensuring project compatibility with the ecological requirements of raptors. The best management practices include timing limitations and controlled surface measures to protect raptor species.

Mule Deer

The lease parcels are within crucial winter range for mule deer. Crucial range provides unique habitat for deer. The function of crucial winter range is to provide shelter and forage to big game, ensuring their survival during periods of significant winter stress. Mule deer populations in the western U.S. have historically fluctuated due to environmental factors (e.g., drought, severe winters). Deer populations in eastern Utah have declined in recent years. Unusually high deer mortalities in the 1980s and 1990s are primarily attributed to the severe, 1983-1984 and 1992-1993 winters, and to a prolonged, seven-year drought between 1986 and 1992. These conditions decimated the fawn population as well as a large percentage of the adult deer. A very slow recovery of the deer population has occurred since that time. Fawn production and survival, which continued to be low through 1996, began to improve after 1996 with good forage and winter conditions. The current drought is causing severe stress to mule deer, once again reducing their populations and limiting the forage on which they depend. However, these are environmental factors that are beyond human control. Factors within human control that affect

the population of mule deer in the area include hunting, grazing, energy development, increased recreation, and predation.

Elk

Rocky Mountain elk occur year-round in parcel UT1112 – 42 in low numbers. The project area is on lands classified by the BLM as elk calving range. Resident elk use the low-elevation water resources, such as the Green River.

3.3.4 Migratory Birds

All of the lease parcels contain nesting and foraging habitat for migratory birds. The Migratory Bird Treaty Act of 1918 protects migratory birds and their parts. Executive Order 13186, signed on January 10, 2001, directs federal agencies to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern. Birds of Conservation Concern (USFWS 2002) identify the migratory bird species of concern in different Bird Conservation Regions (BCRs) in the United States. The parcels are within BCR 16 (Southern Rockies/Colorado Plateau). Species lists for BCR16 have been reviewed and the potential exists for several migratory bird species, currently designated as species of concern, to nest within the parcels, primarily between April and September.

3.3.5 Non-WSA Lands with Wilderness Characteristics

Parcel 25 falls within the Desolation Canyon non-WSA lands with wilderness characteristic area. The terrain within the area varies from the Green River bottoms and floodplains to the high ridges of the Tavaputs Plateau at nearly 9,500 feet in elevation. Numerous mesas, ridges, plateaus, canyons, and remote drainages intersect the Green River. The unit contains a variety of vegetation ranging from the riparian zones along the river, piñon-juniper woodlands, and areas with saltbush, sagebrush, and shadscale. The higher ridges may have stands of aspen, spruce, and fir. The area was reviewed in February of 2007 by an interdisciplinary team. The area as summarized in the Vernal RMP proposed plan/FEIS., on pages 3-43 through 3-48 is natural in condition. While there are human made developments, they are scattered and their individual and cumulative impact on the natural character of the area is minor. The imprints are in various stages of natural rehabilitation and substantially unnoticeable as a whole. The expansive landscape, diverse topography, and vegetation screen intrusions from sight within the area. The area is large enough to provide opportunities for solitude on its own as a large, remote area where visitors are isolated from the outside world. The vast size, configuration, numerous scenic vistas, and diversity of vegetation and landform provide the visitor with numerous places to be alone while providing opportunities for primitive and unconfined recreation. Most of the unit is remote, accessible only by foot, horseback, or boat. The unit contains many supplemental wilderness values, including cultural, scenic, geologic, botanical, and wildlife values. Habitats within the area range from desert canyons to high mountain environments.

3.3.6 Threatened, Endangered, Candidate or Sensitive Animal Species

BLM manages sensitive species in accordance with BLM Manual 6840 with the objective to initiate proactive conservation measures that reduce or eliminate threats to these species to minimize the likelihood of and need for listing of these species under the ESA. Special status species are, collectively, the federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. There are

57 BLM Utah sensitive species, including 12 species under conservation agreement and 4 candidate species. Of these, 52 species occur or potentially occur within the VFO. The Utah sensitive species lists also includes federally listed species. VFO has used available data sources to determine if potential lease parcels fall within known habitat for BLM or UDWR sensitive species. After site-specific review, it has been determined that the threatened, endangered, candidate and sensitive species listed in **Table 2** may occur within the project area or be affected by the proposed action.

Table 2. Threatened, Endangered, Candidate, or Sensitive Animal Potential Occurrence

Species	Status	Potential Occurrence and Habitat Type	Parcels
Fish			
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker	Endangered	These species occurs in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	Conservation Agreement Species	These species occurs in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Mammals			
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis	BLM Sensitive	These species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Habitat is present within the proposed project area.	All parcels
Raptors			
Bald Eagle	BLM Sensitive, Bird of Conservation Concern	Bald eagles utilize ungulate winter ranges that provide carrion, and areas of open water such as the Green River. Roosting habitat does occur within the proposed project area.	UT1112 – 25
Golden Eagle	BLM Sensitive, Bird of Conservation Concern	Throughout the summer, golden eagles are found in mountainous areas, canyons, shrub-land and grassland. During the winter they inhabit shrub-steppe vegetation, as well as wetlands, river systems and estuaries. Golden eagles are quite common to Uintah County. All parcels contain foraging habitat however no known nest exist within them.	All parcels

Species	Status	Potential Occurrence and Habitat Type	Parcels
Ferruginous Hawk	BLM Sensitive, Bird of Conservation Concern	This species is known to occur in the West Desert and the Uinta Basin as a summer resident and a common migrant. Within the Uinta Basin, the species is more associated with prairie dog colonies as the main prey base. All parcels contain foraging habitat however no known or documented ferruginous hawk nests are within ½ mile of the proposed project.	All parcels
Migratory Birds			
Gray Vireo	Bird of Conservation Concern	Dry shrubby areas, chaparral, and sparse woodlands. Habitat is present within the proposed project area.	All parcels
Grasshopper Sparrow	Bird of Conservation Concern	In Utah, the species is widespread and has been known to breed in Uintah, Duchesne, and Daggett counties. Habitat is present within the proposed project area.	All parcels
Brewer's Sparrow	Bird of Conservation Concern	Desert and shrubland/chaparral. Habitat is present within the proposed project area.	All parcels

3.3.7 Threatened, Endangered, Proposed or Candidate Plant Species

Graham's beardtongue (Penstemon grahamii)

Graham's beardtongue is a perennial herb and member of the plantain family (formally a member of the figwort family). It is currently proposed for listing as threatened species and is endemic to the Uinta Basin in northeast Utah and adjacent western Colorado. This member of the figwort family is perennial herb consisting of one to several shoots growing to 20 centimeters tall from a tap-rooted caudex. The species produces pinkish or lavender flowers from mid-May to mid-June. Graham's beardtongue grows on weathered exposures of oil-shale associated with the Green River Formation between 4,600 and 6,800 feet elevation. Associated vegetation communities include: shadscale, *Eriogonum*, horsebrush, ryegrass, and pinyon-juniper communities. Potential habitat for this species has been identified within the following parcels: 015 and 040 (identified occupied habitat).

White River penstemon (Penstemon scariousus var. albifluvis)

White River penstemon is a candidate for federal listing and is endemic to Uintah County, Utah and Rio Blanco County, Colorado. This member of the figwort family is a perennial herb with a woody caudex and several clusters of 15 to 50 centimeter tall, upright stems that produces light blue to blue-lavender bilaterally symmetrical flowers from May to early June. The species grows on sparsely vegetated pale tan, shale slopes of the Green River formation 5,000 and 6,800 feet elevation. Associated vegetation communities include shadscale, rabbitbrush, Indian ricegrass, ryegrass, sagebrush, Barneby's thistle, and pinyon-juniper communities. Potential habitat for this species has been identified within the following federal parcels: 040 (identified occupied habitat).

Clay reed mustard (Schoenocrambe argillacea)

Clay reed-mustard is a perennial herb and a member of the mustard family. It is federally listed as threatened and is endemic to the lower Uinta and upper Green River Shale formations in the Bookcliffs of Uintah County, Utah. It consists of a sparsely leafed stem arising from a stout, woody base. From mid-April through mid-May, clay reed-mustard produces 3.5 to 4.5-millimeter wide lilac to white flowers that have prominent purple veins. Clay reed-mustard typically occurs on steep hillsides and canyons on clay soils derived from the contact zone between the Uinta and Green River geologic formations. The typical plant community in clay reed-mustard habitat is the salt desert shrub community. Suitable and occupied habitat has been identified within parcel 025.

Uinta Basin hookless cactus (Sclerocactus wetlandicus)

Uinta Basin hookless cactus is a perennial herb and a member of the cactus family. It is federally listed as threatened and is endemic to the Uinta Basin. It consists of a perennial succulent shoot, solitary or rarely branching, globose, ovoid or cylindrical. Individuals are usually 3 to 9 centimeters in diameter and 4 to 12 centimeters. Each spine cluster, areoles, usually consists of one large (15 to 29 millimeters) central spine, three to four lateral central spines and six to ten radial spines. From late April to May, Uinta Basin hookless cactus produces 2.5 to 5-centimeter high pink to violet flowers. The ecological amplitude of Uinta Basin hookless cactus is wide, being found from clay badlands up to the pinyon-juniper habitat. The preferred habitat occurs on river benches, valley slopes, and rolling hills consisting of xeric, fine textured, clay soils, derived from the Duchesne River, Green River, Mancos, and Uinta formations, overlain with a pavement of large, smooth, rounded cobble. The typical plant community in Uinta Basin hookless cactus habitat is the salt desert shrub community.

The following parcels are located within an area the US Fish and Wildlife Service (USFWS) has designated as being potential habitat for Uinta Basin hookless cactus: 032, 037. The following parcel is at least partially located within USFWS identified Level 2 Core Conservation Areas, within which the USFWS has recommended a maximum of 5% surface disturbance: 037.

3.3.8 Recreation

Nine Mile Canyon Special Recreation Management Area (SRMA)

The Nine Mile Canyon SRMA (44,168 acres) is managed to protect high value cultural resources and emphasizes scenic vistas. Nine Mile Canyon SRMA is notable for its Native American rock art and cultural sites and is jointly managed by the Price Field Office (PFO) and the Vernal Field Office (VFO). An activity management plan has not been developed for the Nine Mile Canyon SRMA.

3.3.9 Areas of Critical Environmental Concern

Nine Mile Canyon ACEC

Parcel 15 is located within the Nine Mile Canyon ACEC is a 44,168 acre area that was carried forward in the Vernal RMP as an ACEC to protect its relevant and important values of cultural resources, high quality scenery, and special status species.

Red Creek ACEC

Parcel 42 is located within the Red Creek Watershed ACEC is a 24,475 acre area that was carried forward in the Vernal RMP as an ACEC to protect its relevant and important values of watershed.

4.0 ENVIRONMENTAL IMPACTS

4.1 Introduction

This chapter discusses the environmental consequences of implementing the alternatives described in Chapter 2. Under NEPA, actions with the potential to affect the quality of the human environment must be disclosed and analyzed in terms of direct and indirect effects—whether beneficial or adverse and short or long term—as well as cumulative effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by an action but occur later or farther away from the resource. Beneficial effects are those that involve a positive change in the condition or appearance of a resource or a change that moves the resource toward a desired condition. Adverse effects involve a change that moves the resource away from a desired condition or detracts from its appearance or condition. Cumulative effects are the effects on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions.

The No Action alternative (offer none of the nominated parcels for sale), serves as a baseline against which to evaluate the environmental consequences of the Proposed Action alternative (offer six parcels for sale with additional resource protective measures). For each alternative, the environmental effects are analyzed for the resources that were carried forward for analysis in Chapter 3.

4.2 Issues Carried Forward for Analysis

4.2.1 Alternative A – Proposed Action

This section analyzes the impacts of the proposed action to those potentially impacted resources described in the Affected Environment (Chapter 3).

4.2.1.1 Air Quality

The act of leasing would not result in changes to air quality. However, should the leases be issued, development of those leases could impact air quality conditions. It is not possible to accurately estimate potential air quality impacts by computer modeling from the project due to the variation in emission control technologies as well as construction, drilling, and production technologies applicable to oil versus gas production and utilized by various operators, so this discussion will remain qualitative. Prior to authorizing specific proposed projects on the subject lease parcels quantitative computer modeling using project specific emission factors and planned development parameters (including specific emission source locations) will need to be conducted

to adequately analyze direct and indirect potential air quality impacts. Air quality dispersion modeling which may be required includes impact analysis for demonstrating compliance with the NAAQS, plus analysis of impacts to Air Quality Related Values (i.e. deposition, visibility), particularly as they might affect nearby Class 1 areas (National parks and Wilderness areas).

Although not listed as a NAAQS criteria pollutant, volatile organic compounds (VOC) are also considered in this EA as they, along with NO_x, are precursors to the formation of ozone and are listed by UDAQ as a pollutant that, if the threshold is exceeded, would require an approval order.

The Proposed Action is considered to be a minor source under the Clean Air Act. Minor sources are not controlled by regulatory agencies responsible for implementing the Clean Air Act. In addition, control technology is not required by regulatory agencies at this point, since the Uinta Basin is designated as “unclassified” with respect to the NAAQS. The Proposed Action will result in different emission sources associated with two project phases: well development and well production. Annual estimated emissions from the Proposed Action are summarized in **Table 3**.

These parcels occur within the Uinta Basin where an air analysis was completed for the Greater Natural Buttes EIS that addressed regional settings, standards, emissions data (including production and operation values), modeling procedures, assessment/reporting of impacts, and greenhouse gas emissions. BLM is incorporating by reference the relevant portions of the EIS.

This EA addresses mobile off road engine exhaust emissions from drilling activities, venting and flaring emissions from completion and testing activities, and emissions from ongoing production activities. NO_x, SO₂, and CO would be emitted from vehicle tailpipes. Drill rig and fracturing engine operations would result mainly in NO_x and CO emissions, with lesser amounts of SO₂. These temporary emissions would be short-term during the drilling and completion times. During the operational phase of the Proposed Action, NO_x, CO, VOC, and HAP emissions would result from the long-term operation of condensate storage tank vents, and well pad separators.

Additionally, fugitive dust emissions, specifically emissions of total particulate matter of less than 10 micrometers (PM₁₀), would occur from heavy construction operations. PM₁₀ emissions are converted from total suspended particulates by applying a conversion factor of 25%. PM_{2.5} is not specifically addressed as it is included as a component of PM₁₀. PM_{2.5} is converted from PM₁₀ by applying a conversion factor of 15%. This EA does not consider mobile on road emissions as they are dispersed, sporadic, temporary, and not likely to cause or contribute to an exceedance of the NAAQS.

Table 3. Proposed Action Annual Emissions (tons/year) ¹

Pollutant	Development	Production	Total
NO _x	14.2	2.2	16.4
CO	3.2	3.2	6.4
VOC	2.5	6.5	9.0
SO ₂	0.9	0	0.9
PM ₁₀	0.7	0.03	0.73
PM _{2.5}	0.3	0.01	0.31
Benzene	0.03	0.13	0.16

Pollutant	Development	Production	Total
Toluene	0.02	0.09	0.11
Ethylbenzene	0.02	0.22	0.24
Xylene	0	0.07	0.07
n-Hexane	0.05	0.08	0.13
Formaldehyde	0	0	0

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed.

Emissions of NO_x and VOC, ozone precursors, are estimated to be 16.4 tons/yr for NO_x, and 9.0 tons/yr of VOC (**Table 3**) per well. Project emissions of ozone precursors would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. However, these emissions are estimated to be less than 1 ton per year.

Lease stipulation UT-S-01 Air Quality, which regulates the amounts of NO_x emission per horsepower hour based on internal combustion engine size, would be attached to all parcels.

- New and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NO_x per horsepower-hour.

Additional air impact mitigation strategies have recently been developed in the Uinta Basin. The BLM in coordination with the EPA and the UDAQ, among others, developed the following air quality mitigation measures. Integration of and adherence to these measures may help minimize adverse local or regional air quality impacts from activities carried out during oil and gas development (including but not limited to construction, drilling, and production). As per the Greater Natural Buttes FEIS the following avoidance and minimization measures should be considered in a Plan of Development (UT-LN-96):

- Electric compression, where feasible.
- Emission controls having a control efficiency of 95 percent on existing condensate tanks with a potential to emit of greater 20 tpy, and on new condensate tanks with a potential to emit of 5 tpy VOCs.
- Green completions for all well completion activities.
- Tier II drill rig engines by 2012, with phase-in of Tier IV engines or equivalent emission reduction technology as soon as possible thereafter, but no later than 2018
- Lean burn natural gas-fired stationary compressor engines or equipment with equivalent emission rates.
- Catalyst on all natural gas-fired compressor engines to reduce the emissions of CO and VOCs.
- Dry seals on new centrifugal compressors.

- An annual inspection and maintenance program to reduce VOC emissions, including:
 - Performing inspections of thief hatch seals and Enardo pressure relief valves to ensure proper operations.
 - Reviewing gathering system pressures to evaluate any areas where gathering pressure may be reduced, resulting in lower flash losses from the condensate storage tanks.
 - Vent emissions from stock tanks and natural gas TEG dehydrators would be controlled by routing the emissions to a flare or similar control device which would reduce emissions by 95% or greater.
 - Low bleed pneumatics would be installed on separator dump valves and other controllers. The use of low bleed pneumatics would result in a lower emission of VOCs.
 - During completion, flaring would be limited as much as possible. Production equipment and gathering lines would be installed as soon as possible.
 - Well site telemetry would be utilized as feasible for production operations.
- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO_x per horsepower-hour.

Additional site-specific measures may also be employed to avoid or minimize effects to local or regional air quality. These additional measures would be developed and implemented in coordination with the EPA, the UDAQ, and other agencies with expertise or jurisdiction as appropriate.

Application of these lease notices to each of parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.2.1.2 Utah BLM Sensitive Plant Species

The issuance of leases would not directly impact UT BLM Sensitive Plant Species on the nominated parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies species that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to individuals these impacts include direct dispersed and indirect impacts including: the loss of suitable habitat for the species and its pollinators; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; accidental spray or drift of herbicides used during invasive plant control; altered photosynthesis, respiration, and transpiration due to increased fugitive dust resulting from the surface disturbance and project related traffic. For the parcels on federally managed surface, application of the appropriate species-specific lease notices and application of the following two lease notices UT-LN-49 (Utah sensitive species) and UT-LN-51 (Special Status Plants: Not Federally Listed) would be adequate for the leasing stage to disclose potential restrictions against future authorizations. The site specific impacts to the identified species and their respective

habitats resulting from future authorizations connected to the proposed leases cannot be analyzed until an exploration or development application is received, individual species surveys are completed, and avoidance and mitigation measures developed for any identified occupied habitat.

4.2.1.3 Fish and Wildlife Excluding Threatened, Endangered, Candidate and Sensitive Species

The issuance of leases would not directly impact fish and wildlife resources on the nominated parcels. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received, however for both general wildlife and raptors, impacts are assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition, noise disturbances from increased traffic levels could temporarily displace wildlife species.

Appropriate lease stipulations and notices have been included within the Proposed Action to protect wildlife and raptor habitat values (see Appendix A). Table 4 identifies applicable big game stipulations by parcel.

Table 4 General Wildlife Stipulations

Species	Stipulations	Parcels
Crucial deer winter	UT-S-230 and UT-S-231	UT1112 – 40 and UT1112 – 42
Crucial elk calving	UT-S-247	UT1112 – 42

4.2.1.4 Migratory Birds

The issuance of leases would not directly impact migratory birds on the nominated parcels. However, the issuance of leases does convey an expectation that construction and drilling could occur. Chapter 3 identifies that migratory birds occur on all parcels and could be potentially impacted through future actions on leased parcels. In addition to the direct loss and fragmentation of habitat associated with the Proposed Action, noise disturbances from increased traffic levels could temporarily displace Migratory Birds, however the Lease Notices and Lease Stipulations attached to these parcels would mitigate/minimize these impacts.

Application of the migratory bird lease notice would be adequate for the leasing stage to disclose potential restrictions to reduce potential impacts. Appropriate lease stipulations and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.2.1.5 Non-WSA Lands with Wilderness Characteristics

The Desolation Canyon non-WSA lands with wilderness characteristics consist of 63,118.4 acres. Parcel 25 is proposed to be 338.7 acres of which 311.4 acres fall within the Desolation Canyon wilderness characteristics. Full development of the lease (9 wells at 40 acre spacing plus .5 miles of road/well) would total approximately 34.2 acres. The total percent of Desolation Canyon wilderness characteristics potentially affected by the proposed action could range between 0.49% (311.4 ac) to 0.05% (34.2 acres). Regardless of acreage, wilderness

characteristics would be lost for the entire lease parcel. Impacts include loss of naturalness and loss of opportunities for solitude or primitive unconfined recreation. Additional impacts could include loss of size that may occur from development should the proposed development segregate portions of the wilderness characteristics less than 5,000 acres from the main body of wilderness characteristics. This was anticipated in the Vernal RMP proposed plan/FEIS pages 4.175 through 4-286. Where development occurs, wilderness characteristics would be lost.

4.2.1.6 Threatened, Endangered, Candidate or Sensitive Animal Species

The issuance of leases would not directly impact threatened, endangered, candidate, or sensitive animal species or habitat. However, the issuance of leases does convey an expectation that construction and drilling could occur. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received, however it is assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition to the direct loss and fragmentation of habitat associated with the Proposed Action, noise disturbances from increased traffic levels, or water depletion (for fish) could temporarily displace wildlife species. Refer to **Table 5** for a brief summary of anticipated impacts should development occur.

Table 5. Threatened, Endangered, Candidate, or Sensitive Animal Potential Impacts

Species	Potential Impacts
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	All parcels have potential for drilling activities to use water from Green River system. Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats. Food supply, predation, and competition are important elements of the biological environment. Food supply is a function of nutrient supply and productivity, which could be limited by reduction of high spring flows brought about by water depletions. Predation and competition from nonnative fish species have been identified as factors in the decline of the endangered fishes.
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis	Construction of roads and well pads could result in the loss of foraging habitat, making it less suitable for bats. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence, noise, and the potential influx of invasive weeds.
Bald Eagle	Bald eagles are sensitive to human activity; they may avoid areas where construction and drilling activities are taking place. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence and noise.
Golden Eagle, Ferruginous Hawk	Potential effects of the Proposed Action on raptor species include 1) increased indirect impacts (including poaching and collisions with vehicles), 2) direct loss or degradation of potential nesting and foraging habitats from construction and drilling, and 3) indirect disturbance from human activity (including harassment, displacement, and noise).

Species	Potential Impacts
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow	The proposed action would result in a loss of habitat for migratory birds. Direct impacts to nesting and breeding migratory birds may occur, depending upon the time of construction and drilling. If development occurs in the spring, during the nesting season for most migratory birds, impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.

The following Endangered Species Act (ESA) related stipulation (in accordance with WO IM - 2002-174) would be applied to all parcels:

*The lease may now and hereafter contain plants, animals, and their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modification to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligation under requirements of the Endangered Species Act as amended, 16 U. S. C. § 1531 *et seq.* including completion of any required procedure for conference or consultation.*

Table 6 lists all additional lease notices and stipulations that would also be applied to the indicated parcels.

Table 6. Threatened, Endangered, Candidate, or Sensitive Animal Potential Occurrence

Species	Lease Notice or Stipulations	Parcels
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker	T&E-03 Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-49 Utah Sensitive Species	All Parcels
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub, Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis	UT-LN-49 Utah Sensitive Species	All parcels
Bald Eagle	T&E-01 Bald Eagle UT-LN-37 Bald Eagle Habitat UT-LN-49 Utah Sensitive Species UT-S-278 Controlled Surface Use – Bald Eagle Winter Roost	UT1112 –25

Species	Lease Notice or Stipulations	Parcels
Golden Eagle	<ul style="list-style-type: none"> UT-S-261 No Surface Occupancy/Controlled Surface Use/Timing Limitation – Raptor Habitat UT-LN-49 Utah Sensitive Species	All parcels
Ferruginous Hawk	UT-S-261 No Surface Occupancy/Controlled Surface Use/Timing Limitation – Raptor Habitat UT-LN-49 Utah Sensitive Species	All parcels
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow	UT-LN-45 Migratory Birds UT-LN-49 Utah Sensitive Species	All parcels

Application of these lease notices to each of parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.2.1.7 Threatened, Endangered, Proposed or Candidate Plant Species

The issuance of leases would not directly impact threatened, endangered, or candidate on the nominated parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies species that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to individuals these impacts include direct dispersed and indirect impacts including: the loss of suitable habitat for the species and it's pollinators; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; accidental spray or drift of herbicides used during invasive plant control; altered photosynthesis, respiration, and transpiration due to increased fugitive dust resulting from the surface disturbance and project related traffic. For the parcels on federally managed surface, application of the appropriate species-specific lease notices and application of lease notices UT-LN-49 (Utah sensitive species) would be adequate for the leasing stage to disclose potential restrictions against future authorizations. As the BLM's consultation requirements under Section 7 (a) (2) of the Endangered Species Act of 1973 as Amended apply to all actions that are authorized funded, or carried out by the BLM, the appropriate species-specific lease notice will be required for the parcels on private surface and future developments on these leases will be required to survey for and avoid or mitigate the impacts to the species. However, given that BLM's management of the surface is restricted to the project in question and any individuals found on private surface are owned by the landowner, these plants are assumed to be lost by the US Fish and Wildlife Service in the Biological Opinions, Five Year Reviews, and Recovery Plans should the landowner decide not to protect them. The site specific impacts to the identified species and their respective habitats resulting from future authorizations connected to the proposed leases cannot be analyzed until an exploration or development application is received, individual species surveys are completed, and avoidance and mitigation measures developed for any identified occupied habitat.

4.2.1.8 Recreation

Nine Mile Canyon

The issuance of leases would not directly impact Recreation sites, goals or values on the nominated parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies the Nine Mile Canyon SRMA that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to the SRMA these impacts include direct dispersed and indirect impacts including: the loss of solitude currently enjoyed by visitors, an increase in heavy truck traffic often associated with development for both short and long term. Light pollution associated with operating rigs and sites, and noise pollution comparable to current uses and technology identified and utilized on developed sites. For the parcels on federally managed surface, application of the appropriate lease notices and stipulations for Special Recreation Management area would be adequate for the leasing stage to disclose potential restrictions against future authorizations.

4.2.1.9 Areas of Critical Environmental Concern

Nine Mile Canyon ACEC

The issuance of leases would not directly impact the ACEC's relevant and important values. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. All of parcel 15, except for 20 acres, would contain a No Surface Occupancy Stipulation (UT-S-23). Should construction and drilling occur on the remaining 20 acres, potential impacts to the relevant and important values are as follows:

- no impacts to cultural resources are anticipated due to the low to moderate potential for identifying additional resources in the parcel, and due to the requirement to conduct a specific clearance and mitigation prior to development approval;
- impacts to high quality scenery would include potential disturbance of up to 20 acres of land within the parcel (since a conventional well pad with road and pipeline usually averages around 6 acres the disturbance is likely to be less), however, site specific review of any proposed development could move the well away from the canyon rim to preserve the viewshed from within the Canyon, and;
- impacts to special status species are as described in section 4.2.1.2, 4.2.1.4, 4.2.1.6, and 4.2.1.7.

Red Creek Watershed ACEC

The issuance of leases would not directly impact the ACEC's relevant and important values. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Should construction and drilling occur on the parcel, potential impacts to the relevant and important values includes the potential for increased erosion should surface disturbance occur on parcel 042, however the stipulations relating to construction on slopes greater than 21 percent (UT-S-96 and UT-S-100) would help minimize this impact. Stipulation UT-S-24 would be applied.

4.2.2 Alternative B – No Action

This alternative would not offer any of the nominated parcels for sale.

4.2.2.1 Air Quality

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.2 Utah BLM Sensitive Plant Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.3 Fish and Wildlife Excluding Threatened, Endangered, Candidate and Sensitive Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.4 Migratory Birds

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.5 Non-WSA Lands with Wilderness Characteristics

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.6 Threatened, Endangered, Candidate or Sensitive Animal Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.7 Threatened, Endangered, Proposed or Candidate Plant Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.8 Recreation

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2.9 Areas of Critical Environmental Concern

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.3 Cumulative Impacts Analysis

A cumulative impact is defined in CEQ regulations (40 CFR §1508.7) as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Cumulative impacts can result from individually minor but collectively major actions taking place over a period of time. The cumulative impact area varies by resource.

Past, present, and reasonably foreseeable impacts may occur from a variety of activities. Dispersed recreation activities, such as sightseeing, biking, camping, and hunting, have occurred and are likely to continue to occur within the nominated parcels; these activities likely result in negligible impacts to resources because of their dispersed nature. Other land use activities, such as livestock grazing, vegetation projects, oil and gas development, and wildland fire, have also occurred within the nominated parcels and are likely to occur in the future. These types of activities are likely to have a greater impact on resources in the project area because of their more concentrated nature.

4.3.1 Air Quality

The CIAA for air quality is the Uinta Basin. Cumulative air quality impacts are defined as the combination of emissions resulting from the Proposed Action, existing nearby permitted sources, and Reasonably Foreseeable Development (RFD) within the region. Cumulative impacts are incorporated by reference to the Uinta Basin Air Quality Study (UBAQS), the Greater Natural Buttes air quality study, and the Gasco air quality study. The increase in emissions associated with the Proposed Action would be localized, in some cases temporary (well development phase), and on a much smaller scale in comparison with regional emissions. For regional ozone issues, when the emissions inventory for the production phase of the Proposed Action is compared to the regional emission inventory compiled during the WRAP Phase III study for the Uinta Basin, 2006 Baseline Emissions, (WRAP, 2009), it can be seen from **Table 8** that the VOC and NO_x emissions from the Proposed Action comprise a small percentage of the WRAP baseline emissions.

Table 7. Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	16.4	16,547	0.099
VOC	9.0	127,495	0.007

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

The WRAP Phase III baseline inventory for the Uinta Basin for VOC emissions in 2006 was 71,546 tons/yr. For 2012, the NO_x and VOC emissions are projected at 16,547 and 127,495 ton/yr, respectively. Potential VOC emissions from the Proposed Action represent 0.007% of the total 2012 VOC estimated emissions for the region, and potential NO_x emissions from the Proposed Action represent 0.099% of the total 2012 VOC estimated emissions for the region.

Based on the magnitude of the projected increase in VOC emissions for the Uinta Basin from 2006 to 2012, and the inconsequential contribution that would be emitted from the Proposed Action, an accurate analysis of potential ozone impacts from the Proposed Action is not feasible. Any cumulative ozone impacts from the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the regional cumulative VOC and NO_x emission inventory. Thus the potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed Action, the size of the project, and the lack of model sensitivity. When compared to regional emissions inventories, the amounts of ozone precursors emitted from the Proposed Action are not expected to have a measurable contribution or effect on regional ozone formation. The No Action alternative would not result in an accumulation of impacts.

The assessment of greenhouse gas (GHG) emissions and climate change is still in its earliest stages of formulation. At present, under current scientific data and models, it is not technically feasible to know with any certainty the net impacts to climate due to global emissions, let alone regional or local emissions. The inconsistency in results of scientific models used to predict climate change at the global scale, combined with the lack of scientific models designed to predict climate change on regional or local levels, prohibits the ability to quantify potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action.

Drilling and development activities from the Proposed Action are anticipated to release a negligible amount of emissions, including GHGs, into the local airshed. The No Action Alternative would not result in an accumulation of impacts.

4.3.2 Utah BLM Sensitive Plant Species

The CIAA for Utah BLM Sensitive Plant Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2, and 4.23.14 in the RMP. Cumulative impacts include reduction in loss of habitat, habitat fragmentation, increased road access for OHV use and illegal collection of individuals. The past, present, and foreseeable future actions include development of new and existing mineral rights, including road, pipeline, and well pad construction.

The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

4.3.3 Fish and Wildlife Excluding U.S. Fish and Wildlife Service Designated Species

The Cumulative Impact Analysis Area (CIAA) for Fish and Wildlife Excluding U.S. Fish and Wildlife Service Designated Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the Vernal RMP. Cumulative impacts to general wildlife and raptors include reduction in Animal Unit Months (AUMs) for wildlife and loss of wildlife and fisheries habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.3.4 Migratory Birds

The CIAA for Migratory Birds will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the Vernal RMP. Cumulative impacts include loss of migratory bird habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) and the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making six parcels available

for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.3.5 Non WSA Land with Wilderness Characteristics

The CIAA for the Desolation Canyon Non WSA Land with Wilderness Characteristics is the boundary of that area. The cumulative effects and the area of impact would be the same as outlined in section 4.10.2 and 4.23.8 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) and the continuation of agricultural activities. The proposed action would result in the loss wilderness characteristics of 0.49% (311.4 acres) to 0.05% (34.2 acres) of the Desolation Canyon Lands with Wilderness Characteristics parcel, however, this level of development was analyzed and accepted by decision in the VFO RMP. The No Action alternative would not change the amount of lands with wilderness characteristic within the Desolation Canyon area.

4.3.6 Threatened, Endangered or Candidate Animal Species

The CIAA for Threatened, Endangered, Candidate, or Sensitive Animal Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2, 4.21.2, and 4.23.14 in the Vernal RMP. Cumulative impacts to threatened, endangered, candidate, or sensitive animal species include reduction in AUMs for wildlife and loss of wildlife and fisheries habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.3.7 Threatened, Endangered, Proposed Or Candidate Plant Species

The CIAA for Threatened, Endangered or Candidate Plant Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2 4.23.16, and 4.23.14 in the RMP. Cumulative impacts include reduction in loss of habitat, habitat fragmentation, increased road access for OHV use and illegal collection of individuals. The past, present, and foreseeable future actions include development of new and existing mineral rights. Including road, pipeline, and well pad construction. The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

4.3.8 Recreation

The CIAA for Recreation will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.12.2. and 4.23.10 in the RMP. Cumulative impacts include reduction in loss of habitat, habitat fragmentation, increased road access for OHV use and illegal collection of individuals. The past, present, and foreseeable future actions include development of new and existing mineral rights. Including road, pipeline, and well pad construction. The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

4.3.9 Areas of Critical Environmental Concern

Nine Mile Canyon ACEC

The CIAA for the Nine Mile Canyon ACEC is the boundary of that area. The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and 4.23.15.1 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way). The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

Red Creek Watershed ACEC

The CIAA for the Red Creek Watershed ACEC is the boundary of that area. The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and 4.23.15.1 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way). The proposed action would contribute to these cumulative impacts by making six parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

5.0 CONSULTATION AND COORDINATION

5.1 Introduction

Public and agency involvement has occurred as described in sections 5.2 and 5.3 below.

5.2 Persons, Groups, and Agencies Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
U.S. Fish & Wildlife Service (US FWS)	Section 7 ESA	Consultation is ongoing.
Utah State Historic Preservation Office (SHPO)	Section 106 NHPA	Consultation is ongoing.
Ute Mountain Ute Tribe Ute Indian Tribe Goshute Indian Tribe Zia Pueblo Tribe White Mesa Ute Tribe Navajo Nation Laguna Pueblo Tribe Northwest Band of Shoshone Tribe Southern Ute Tribe Eastern Shoshone Tribe Ute Indian Tribe Eastern Shoshone Tribe Santa Clara Pueblo Tribe Ute Mountain Ute Tribe	American Indian Religious Freedom Act (1978) NHPA	Response letter from Hopi Tribe, dated May 16, 2011 requesting a copy of the Class I cultural survey. Response letter from Laguna Pueblo Tribe, dated May 13, 2011, concurring with no impact determination.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Hopi Tribe		
Utah Division of Wildlife Resources	Interested Party Coordination	Coordination has been conducted. Their findings regarding the parcels going forward were similar to the BLM's findings.
Eleven Private Land Owners of included parcels (014, 015, 016)	Interested Party Coordination	Phone call from one landowner requesting additional information. Information was provided.

5.3 Summary of Public Participation

On March 29, 2012, the public was notified of the proposed action by posting on the Utah BLM Environmental Notification Bulletin Board (<https://www.blm.gov/ut/enbb>). The process used to involve the public also included a 30-day public review and comment period for the EA and unsigned FONSI from June 22, 2012 to July 23, 2012.

BLM utilized and coordinate the NEPA public participation requirements to assist the agency in satisfying the public involvement requirements under Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470(f) pursuant to 36 CFR 800.2(d)(3). The information about historic and cultural resources within the area potentially affected by the proposed project/action/approval will assist the BLM in identifying and evaluating impacts to such resources in the context of both NEPA and Section 106 of the NHPA. BLM consulted with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, were given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the proposed project/action/approval were invited to participate in the scoping process.

During the public comment period, BLM received one letter from the Southern Utah Wilderness Alliance.

Section 5.3.1 Modifications

Based on public comments and an internal review, BLM has identified necessary corrections or clarifications to this EA. These modifications include:

1. Corrections to grammar, sentence structure, and formatting were made throughout the EA. In general, these changes were made without further clarification. Examples include: changes in font size, changes in verb tense and style or insertion of footnotes. An August 2012 date was inserted into the header of each page to distinguish prior versions of the EA.
2. Section 1.5 (Other Plans) BLM also utilized the information contained in the Greater Uinta Basin Oil and Gas Technical Support Document (2012) and therefore this document was added to the corresponding list.
3. Section 4.2.1.2 (Utah BLM Sensitive Plant Species) lease notice numbers UT-LN-46 (Utah sensitive species) and UT-LN-48 (special status plants; not federally listed) were

corrected and are numbered as UT-LN-49 and UT-LN-51, respectively. Corresponding changes are made in Appendix A.

4. Section 5.3 (Modifications) additional information was added to describe how BLM reviewed and addressed public comments.
5. Section 5.3.1 (Modifications Based on Public Comment and Internal Review) was added.
6. Section 5.3.2 (Response to Public Comment) information was added.
7. Appendix A (Parcel List) was edited by the following actions:
 - All Parcels: lease notices UT-LN-99 (Regional Ozone Formation Controls and UT-LN-102 (Air Quality Analysis) were added. The corresponding language for each of these notices was inserted into the Lease Notice Summary table.
 - All Parcels: stipulation UT-S-157 (Visual Resources) was added.
 - Lease Notices UT-LN- 46 (Utah sensitive species) and UT-LN-48 (special status plants: not federally listed) were redundant to UT-LN-49 and UT-LN-51 and were removed where they occurred.
 - UT1112-015 and -040: lease notice UT-LN-37 (bald eagle) was deleted.
 - UT1112-037: stipulations UT-S-96 (slopes greater than 40%) and UT-S-100 (slopes 21-40%) were added.
 - UT1112-015, UT1112-032, and UT1112-042: unit joinder stipulation UT-S-317 was added.
 - Lease Notice Summary Table: Ute Ladies Tresses notice (unnumbered) was deleted.
8. Appendix C (Interdisciplinary Team Checklist) was modified to apply UT-S-157 (visual resources) on all parcels.
9. Appendix D (Comment Response Table) was added and includes a comment and response table.

Section 5.3.2 Response to Public Comment

As stated in Section 5.3, BLM concluded a public comment period on the Unsigned FONSI and EA on July 23, 2012. BLM received comments from the Southern Utah Wilderness Alliance.

The comments are summarized in Appendix D and Section 5.3.1 Modifications Based on Public Comments and Internal Review lists the modifications that were made in the EA as a result of public comments. Specific comments and responses are detailed in Appendix D.

The BLM acknowledges the support and concerns expressed by the public regarding the leasing of oil and gas resources on the public lands within the field offices, including the subject lease parcels.

Information within the comment letter that is background or general in nature was reviewed; however, responses to or clarifications made to the EA from these items are not necessary. Likewise, expressions of position or opinion are acknowledged but do not cause a change in the analysis. As identified in the NEPA Handbook (H-1790-1, section 6.9.2.2 comment response), BLM looked for modifications to the alternatives and the analysis as well as factual corrections while reviewing public comment.

Challenges³ to BLM's 2008 Vernal Field Office Record of Decision and Resource Management Plan will not be considered. Likewise, specific responses to ongoing litigation will not be made.

5.4 List of Preparers

5.4.1 BLM

Name	Office	Title	Responsible for the Following Section(s) of this Document
Nate Packer	VFO	NRS	Team Lead
Dan Emmett	VFO	Wildlife Biologist	Fish and Wildlife, Migratory Birds, T&E or Candidate Animal Species
Aaron Roe	VFO	Botanist	Threatened, Endangered or Candidate Plant Species, Vegetation excluding USFWS designated species
Jason West	VFO	Recreation Specialist	Wilderness Characteristics
Stephanie Howard	VFO	NEPA Coordinator	Air Quality

³ The Vernal RMP and associated EIS provide the basis for land use allocations including oil and gas leasing decisions. Challenges to the planning process, including the RMP and associated EIS, will not be considered as part of oil and gas leasing decisions. The public was afforded opportunities to protest the Proposed RMP and Final EIS documents. Protests were resolved by the BLM Director in 2008. Copies of the Director's Protest Resolution Reports are available on-line at (scroll down to Utah): http://www.blm.gov/wo/st/en/prog/planning/protest_resolution/protestreports.html. Subsequent to protest resolution, the Record of Decision and Approved RMP was signed by the Assistant Secretary for Lands and Minerals, Department of the Interior, which constituted the final decision for the Department of the Interior, and ended all administrative courses of action on those planning processes.

6.0 REFERENCES, GLOSSARY AND ACRONYMS

6.1 References Cited

- BLM. 1997. Fundamentals of Rangeland Health and Their Companion Rules: Standards for Rangeland Health and Guidelines for Grazing Management for BLM in Utah. Bureau of Land Management, Utah State Office, Salt Lake City. May.
- BLM. 2008. Vernal Field Office Record of Decision and Approved Resource Management Plan. Vernal Field Office, Utah, October 2008.
- BLM. 2006. Best management practices for raptors and their associated habitats in Utah. recommendations for implementing the U.S. Fish and Wildlife Service, Utah Field Office's Guidelines for Raptor Protection from Human and Land Use Disturbances [Romin and Muck 2002]. BLM Utah State Office, Salt Lake City. August 2006.
- USC. 2005 COORDINATED IMPLEMENTATION PLAN FOR BIRD CONSERVATION IN UTAH. Utah Steering Committee Intermountain West Joint Venture, 2005
- U.S. Fish and Wildlife Service. 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. [Online version available at <<http://migratorybirds.fws.gov/reports/bcc2002.pdf>>]

6.2 List of Acronyms

APD	Application for Permit to Drill
BLM	Bureau of Land Management
BMP	Best Management Practice
BCR	Bird Conservation Region
CFR	Code of Federal Regulations
CIA	Cumulative Impact Area
CWCS	Comprehensive Wildlife Conservation Strategy
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENBB	Environmental Notification Bulletin Board
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
FWS	United States Fish and Wildlife Service
IDPR	Interdisciplinary Parcel Review
IM	Instruction Memorandum
LN	Lease Notice
NCLS	Notice of Competitive Lease Sale
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act
RFAS	Reasonably Foreseeable Action Scenario
RFD	Reasonably Foreseeable Development
ROD	Record of Decision
ROW	Right-of-Way
SHPO	State Historic Preservation Office
UDWR	Utah Division of Wildlife Resources
US FWS	United States Fish & Wildlife Service
USC	United States Code
USO	Utah State Office
VFO	Vernal Field Office
WO	Washington Office

APPENDICES

APPENDIX A, NOVEMBER 2012 PRELIMINARY OIL AND GAS LEASE SALE LIST

APPENDIX B, MAP OF PARCELS

APPENDIX C, INTERDISCIPLINARY TEAM CHECKLIST

APPENDIX D, COMMENT RESPONSE TABLE

APPENDIX A, PRELIMINARY OIL AND GAS LEASE SALE LIST

In addition to the Stipulations below, the direction provided in Washington Office Memorandums WO-IM-2005-003 (Cultural Resources Stipulation) and WO-IM-2002-174 (Endangered Species Act Stipulation) would be applied to all parcels. Also, air quality provisions provided in UT-S-01 (Air Quality) and UT-LN-96 (Air Quality) would be applied to all parcels.

UT1112 –015

T. 11 S., R. 15 E., Salt Lake

Sec. 28: E2SE, SWSE;

Sec. 33: Lots 1-3, NW, N2SE, SENE;

531.89 Acres

Duchesne County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-23:	NSO/CSU/TL – Nine Mile Canyon ACEC
UT-S-96:	NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100:	CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-123:	NSO – No Surface Occupancy – Riparian, Floodplains, and Public Water Reserves
UT-S-157:	Visual Resources
UT-S-261:	TL – Raptors
UT-S-317:	Unit Joinder

NOTICES

T&E-03:	Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05:	Listed Plant Species
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-51:	Special Status Plants: Not Federally Listed
UT-LN-90:	Graham’s beardtongue (<i>Penstemon grahamii</i>)
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis
UT-LN-106:	Special Recreation Management Area

UT1112 – 025

T. 10 S., R. 19 E., Salt Lake

Sec. 29: S2.

320.00 Acres

Uintah County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-96:	NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100:	CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-123:	NSO – No Surface Occupancy – Riparian, Floodplains, and Public Water Reserves

UT-S-157: Visual Resources
UT-S-261: TL – Raptors
UT-S-278: CSU – Bald Eagle Winter Roost

NOTICES

T&E-01: Bald Eagle
T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05: Listed Plant Species
T&E-20: Clay Reed - Mustard (*Schoenocrambe argillacea*)
UT-LN-37: Bald Eagle Habitat
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis

UT1112 – 032

T. 7 S., R. 21 E., Salt Lake
Sec. 13: SWNE, SENW, NESW, NESE;
Sec. 22: N2SE;
Sec. 23: SENE, SWNW, N2SE;
Sec. 24: S2NE, NWNE, E2NW, N2SW, NESE;

720.00 Acres

Uintah County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100: CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-157: Visual Resources
UT-S-261: TL – Raptors
UT-S-317: Unit Joinder

NOTICES

T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05: Listed Plant Species
T&E-12: Uinta Basin Hookless Cactus
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-89: Horseshoe Milkvetch
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis

UT1112 – 037

T. 8 S., R. 23 E., Salt Lake

Sec. 26: NENE.

40.00 Acres

Uintah County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-96:	NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100:	CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-123:	NSO – No Surface Occupancy – Riparian, Floodplains, and Public Water Reserves
UT-S-157:	Visual Resources
UT-S-261:	TL – Raptors

NOTICES

T&E-03:	Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05:	Listed Plant Species
T&E-12:	Uinta Basin Hookless Cactus
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-51:	Special Status Plants: Not Federally Listed
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis

UT1112 – 040

T. 10 S., R. 25 E., Salt Lake

Sec. 11: E2;

Sec. 12: All;

Sec. 13: All;

Sec. 14: E2;

Sec. 24: All.

1,517.77 Acres

Uintah County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-96:	NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100:	CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-123:	NSO – No Surface Occupancy – Riparian, Floodplains, and Public Water Reserves
UT-S-157:	Visual Resources
UT-S-261:	TL – Raptors
UT-S-230:	TL – Deer Winter
UT-S-231:	TL – Deer Winter
UT-S-317:	Unit Joinder

NOTICES

T&E-03:	Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05:	Listed Plant Species
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-51:	Special Status Plants: Not Federally Listed
UT-LN-90:	Graham's beardtongue (<i>Penstemon grahamii</i>)
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis

UT1112 – 042

T. 2 N., R. 24 E., Salt Lake

Sec. 8: SESW.

40.00 Acres

Daggett County, Utah

Vernal Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-24:	NSO/CSU/TL – Red Creek Watershed ACEC
UT-S-96:	NSO – Fragile Soils/Slopes Greater Than 40%
UT-S-100:	CSU – Fragile Soils/Slopes (21% - 40%)
UT-S-230:	TL – Deer Winter
UT-S-157:	Visual Resources
UT-S-231:	TL – Deer Winter
UT-S-247:	TL – Elk Calving
UT-S-261:	TL – Raptors

NOTICES

T&E-03:	Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05:	Listed Plant Species
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-51:	Special Status Plants: Not Federally Listed
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis

LEASE STIPULATIONS SUMMARY

UT-S-01	<p style="text-align: center;">AIR QUALITY</p> <p>All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NOx per horsepower-hour. Exception: This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower. Modification: None Waiver: None</p> <p>AND</p> <p>All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NOx per horsepower-hour. Exception: None Modification: None Waiver: None</p>
UT-S-23	<p style="text-align: center;">NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/ TIMING LIMITATIONS – NINE MILE CANYON ACEC</p> <p>No surface occupancy for oil and gas leasing within approximately 17,162 acres, and approximately 209 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Exception: None Modification: None Waiver: None</p>
UT-S-24	<p style="text-align: center;">NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/ TIMING LIMITATIONS – RED CREEK WATERSHED ACEC</p> <p>No surface occupancy for oil and gas leasing within approximately 162 acres of the Red Creek Watershed ACEC. Approximately 12,362 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Exception: None Modification: None Waiver: None</p>
UT-S-96	<p style="text-align: center;">NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES FOR SLOPES GREATER THAN 40%</p> <p>No surface occupancy for slopes greater than 40 percent. Exception: If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the NSO area may be authorized. Additionally a plan shall be submitted by the operator and approved by BLM prior to construction and maintenance and include:</p> <ul style="list-style-type: none"> • An erosion control strategy, • GIS modeling, and • Proper survey and design by a certified engineer. <p>Modification: Modifications also may be granted if a more detailed analysis, i.e. Order I, soil survey conducted by a qualified soil scientist finds that surface disturbance activities could occur on slopes greater than 40% while adequately protecting the area from accelerated erosion. Waiver: None</p>

<p>UT-S-100</p>	<p>CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)</p> <p>If surface-disturbing activities cannot be avoided on slopes from 21-40% a plan will be required. The plan will approved by BLM prior to construction and maintenance and include:</p> <ul style="list-style-type: none"> • An erosion control strategy, • GIS modeling, • Proper survey and design by a certified engineer. <p>Exception: None Modification: None Waiver: None</p>
<p>UT-S-123</p>	<p>NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES</p> <p>No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas. Keep construction of new stream crossings to a minimum.</p> <p>Exception: An exception could be authorized if: (a) there are no practical alternatives (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p>Modification: None Waiver: None</p>
<p>UT-S-157</p>	<p>NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE TIMING LIMITATION – VISUAL RESOURCES</p> <p>Visual resource management activities will comply with BLM Handbook 8410-1.</p> <p>Within VRM Class I areas, very limited management activity will be allowed, with the objective of preserving the existing character of the landscape, allowing for natural ecological changes. The level of change to the landscape should be very low and shall not attract attention.</p> <p>Within VRM Class II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change to the landscape shall repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class III areas, surface disturbing activities will partially retain the existing character of the landscape. The allowable level of change will be moderate, may attract attention, but should not dominate the view of the casual observer. Landscape changes should repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class IV areas, surface disturbing activities are allowed to dominate the view and the major focus of viewer attention. Major modifications to the existing character of the landscape are allowed. But every attempt should be made to minimize and mitigate the impacts.</p> <p>Exception: Exempted are recognized utility corridors. Modification: None Waiver: None</p>
<p>UT-S-230</p>	<p>TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE</p> <p>No surface disturbing activities in deer and elk crucial winter range from December 1 - April 30.</p> <p>Exception: This restriction would not apply if and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance.</p> <p>Modification: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established.</p> <p>Waiver: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.</p>

UT-S-231	<p align="center">CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE</p> <p>Within crucial deer winter range, no more than 10% of such habitat will be subject to surface disturbance and remain un-reclaimed at any given time.</p> <p>Exception: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that impacts can be mitigated.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-247 VERNAL	<p align="center">TIMING LIMITATION – CRUCIAL ELK CALVING AND DEER FAWNING HABITAT</p> <p>In order to protect crucial elk calving and deer fawning habitat exploration, drilling, and other development activity will not be allowed from May 15 - June 30.</p> <p>Exception: This restriction would not apply to maintenance and operation of existing facilities. This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-261	<p align="center">TIMING LIMITATION – RAPTOR BUFFERS</p> <p>Raptor management will be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.</p> <p>Exception: None</p> <p>Modification: Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the "Raptor BMPs", would include the following:</p> <ol style="list-style-type: none"> 1) Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1 of the Raptor BMPs in Appendix A) 2) Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the "BMPs" would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised. 3) Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of UDWR and the USFWS, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database. <p>Waiver: None</p>
UT-S-278	<p align="center">CONTROLLED SURFACE USE – BALD EALGE WINTER ROOST</p> <p>Protect and restore cottonwood bottoms for bald eagle winter habitat along the Green and White Rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site, as well as any new roost sites discovered in the future.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-317	<p align="center">UNIT JOINDER</p> <p>The successful bidder will be required to join the _____ Unit Agreement or show reason why a joiner should not be required.</p>

LEASE NOTICES SUMMARY

UT-LN-37 ALL OFFICES	<p style="text-align: center;">BALD EAGLE HABITAT</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing Bald Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Bald Eagle and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
UT-LN-45 ALL OFFICES	<p style="text-align: center;">MIGRATORY BIRD</p> <p>The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations.</p>
UT-LN-49 ALL OFFICES	<p style="text-align: center;">UTAH SENSITIVE SPECIES</p> <p>The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2.</p>
UT-LN-51 ALL OFFICES	<p style="text-align: center;">SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
UT-LN-89 VERNAL	<p style="text-align: center;">Horseshoe Milkvetch (<i>Astragalus equisolensis</i>)</p> <p>In order to minimize effects to the federal candidate horseshoe milkvetch, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) will not result in a trend toward federal listing of the species. The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat⁴ prior to any ground disturbing activities to determine if suitable horseshoe milkvetch habitat is present. 2. Within suitable habitat⁵, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied⁶ habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known

⁴ *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

⁵ *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain horseshoe milkvetch; characteristics include sagebrush, shadscale, horsebrush, and other mixed desert shrub communities in Duchesne River Formation soils at 4,790 to 5,185 feet.

⁶ *Occupied habitat* is defined as areas currently or historically known to support horseshoe milkvetch; synonymous with "known habitat."

	<p>population is in flower),</p> <ul style="list-style-type: none"> c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until May 1st the following year. <p>3. Design project infrastructure to minimize impacts within suitable habitat²:</p> <ul style="list-style-type: none"> a. Reduce well pad size to the minimum needed, without compromising safety, b. Limit new access routes created by the project, c. Roads and utilities should share common right-of-ways where possible, d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, e. Place signing to limit off-road travel in sensitive areas, and f. Stay on designated routes and other cleared/approved areas. <p>4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> a. Follow the above (#3) recommendations for project design within suitable habitats, b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant, c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only, d. The edge of the well pad should be located at least 300' away from plants, e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population, f. Construction activities will not occur from May 1st through June 5th within occupied habitat, g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, i. Designs will avoid concentrating water flows or sediments into occupied habitat, j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied horseshoe milkvetch habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in coordination with the U.S. Fish and Wildlife Service.</p>
<p>UT-LN-90</p>	<p style="text-align: center;">Graham's beardtongue (<i>Penstemon grahamii</i>)</p> <p>In order to minimize effects to the federally proposed Graham's beardtongue, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. The following avoidance and minimization measures should be included in the Plan of Development:</p> <ul style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities to determine if suitable Graham's

	<p>beardtongue habitat is present.</p> <ol style="list-style-type: none"> 2. Within suitable habitat³, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied habitat⁴ for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to May 20th in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower), c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until April 15th the following year. 3. Design project infrastructure to minimize impacts within suitable habitat²: <ol style="list-style-type: none"> a. Reduce well pad size to the minimum needed, without compromising safety, b. Limit new access routes created by the project, c. Roads and utilities should share common right-of-ways where possible, d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, e. Place signing to limit off-road travel in sensitive areas, and f. Stay on designated routes and other cleared/approved areas. 4. Within occupied habitat⁴, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants: <ol style="list-style-type: none"> a. Follow the above (#3) recommendations for project design within suitable habitats, b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant, c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 20th (flowering period); dust abatement applications will be comprised of water only, d. The edge of the well pad should be located at least 300' away from plants, e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat (exposed raw shale knolls and slopes derived from the Parachute Creek and Evacuation Creek members of the geologic Green River Formation) to ensure pipelines don't move towards the population, f. Construction activities will not occur from April 15th through May 30th within occupied habitat, g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, i. Designs will avoid concentrating water flows or sediments into occupied habitat, j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. 5. Occupied Graham's beardtongue habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service. <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued conservation of the species.</p>
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<ul style="list-style-type: none"> • UT-LN-99 	<ul style="list-style-type: none"> • REGIONAL OZONE FORMATION CONTROLS <p>To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, the following Best Management Practices (BMPs) would be required for any development projects:</p> <ul style="list-style-type: none"> • Tier II or better drilling rig engines • Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines <300HP and 1g NOx/bhp-hr for engines >300HP • Low bleed or no bleed pneumatic pump valves • Dehydrator VOC emission controls to +95% efficiency • Tank VOC emission controls to +95% efficiency
<p>UT-LN-102</p>	<ul style="list-style-type: none"> • AIR QUALITY ANALYSIS <p>The lessee/operator is given notice that prior to project-specific approval, additional air quality analyses may be required to comply with the National Environmental Policy Act, Federal Land Policy Management Act, and/or other applicable laws and regulations. Analyses may include dispersion modeling for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.</p>
<p>UT-LN-106</p>	<p>SPECIAL RECREATION MANAGEMENT AREA</p> <p>The lessee/operator is given notice that lands in this lease have been identified as being within a Special Recreation Management Area. Modifications to the Surface Use Plan of Operations may be required once an activity plan is prepared for the area to mitigate sensitive resources from surface disturbing activities in accordance with the Vernal RMP.</p>

<p>T&E-01</p>	<p style="text-align: center;">Bald Eagle</p> <p>The Lessee/Operator is given notice that the lands in this parcel contains nesting/winter roost habitat for the bald eagle, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the bald eagle breeding or roosting season. A <u>temporary</u> action is completed prior to the following breeding or roosting season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding or roosting season and/or causes a loss of eagle habitat or displaces eagles through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage.</p> <p>Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s), and be conducted according to protocol. 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Water production will be managed to ensure maintenance or enhancement of riparian habitat. 4. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season of January 1 to August 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 5. Temporary activities within 0.5 miles of winter roost areas, e.g., cottonwood galleries, will not occur during the winter roost season of November 1 to March 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 6. No permanent infrastructure will be placed within 1.0 mile of nest sites. 7. No permanent infrastructure will be placed within 0.5 miles of winter roost areas. 8. Remove big game carrion to 100 feet from on lease roadways occurring within bald eagle foraging range. 9. Avoid loss or disturbance to large cottonwood gallery riparian habitats. 10. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat. Utilize directional drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 11. All areas of surface disturbance within riparian areas and/or adjacent uplands should be re-vegetated with native species. <p>Additional measures may also be employed to avoid or minimize effects to the species between the lease sale stage and lease development stage. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the Endangered Species Act.</p>
<p>T&E-03 VERNAL</p>	<p style="text-align: center;">ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pike minnow, and razorback sucker) listed as endangered under the Endangered Species Act, or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994(59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage.</p> <p>Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution

	<p>information is complete and available. All surveys must be conducted by qualified individual(s).</p> <ol style="list-style-type: none">2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.3. Water production will be managed to ensure maintenance or enhancement of riparian habitat.4. Avoid loss or disturbance of riparian habitats.5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities.7. Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423).8. Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat.9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423, to minimize the potential for equipment damage and resulting leaks or spills. <p>Water depletions from <i>any</i> portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p>
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<p>T&E-05</p>	<p style="text-align: center;">LISTED PLANT SPECIES</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease</p> <ol style="list-style-type: none"> 1. Site inventories: <ol style="list-style-type: none"> a. Must be conducted to determine habitat suitability, b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods, c. Documentation should include, but not be limited to individual plant locations and suitable habitat distributions, and d. All surveys must be conducted by qualified individuals. 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Project activities must be designed to avoid direct disturbance to populations and to individual plants: <ol style="list-style-type: none"> a. Designs will avoid concentrating water flows or sediments into plant occupied habitat. b. Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 300 feet minimum between surface disturbances and plants and populations will be incorporated. c. Where populations occur within 300 ft. of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction. d. Areas for avoidance will be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc. e. For surface pipelines, use a 10 foot buffer from any plant locations: <ol style="list-style-type: none"> i. If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population. 4. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats. 5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime. 6. Limit disturbances to and within suitable habitat by staying on designated routes. 7. Limit new access routes created by the project. 8. Place signing to limit ATV travel in sensitive areas. 9. Implement dust abatement practices near occupied plant habitat. 10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area. 11. Post construction monitoring for invasive species will be required. 12. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 13. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p>
<p>T&E-12</p>	<p style="text-align: center;">PARIETTE CACTUS (SCLEROCACTUS BREVISPINUS) AND UINTA BASIN HOOKLESS CACTUS [SCLEROCACTUS GLAUCUS (BREVISPINUS AND WETLANDICUS)]</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for the Pariette cactus and Uinta Basin hookless cactus, under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:</p>

	<p>In order to minimize effects to the federally threatened Pariette cactus and Uinta Basin hookless cactus, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat⁷ prior to any ground disturbing activities to determine if suitable Pariette cactus and Uinta Basin hookless cactus habitat is present. 2. Within suitable habitat⁸, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied⁹ habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods: <ol style="list-style-type: none"> i. <i>Sclerocactus brevispinus</i> surveys should be conducted March 15th to June 30th, unless extended by the BLM ii. <i>Sclerocactus wetlandicus</i> surveys can be done any time of the year, provided there is no snow cover, c. Will occur within 300' from the edge of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until March 15th the following year for <i>Sclerocactus brevispinus</i> and one year from the survey date for <i>Sclerocactus wetlandicus</i>. 3. Design project infrastructure to minimize impacts within suitable habitat²: <ol style="list-style-type: none"> a. Reduce well pad size to the minimum needed, without compromising safety, b. Limit new access routes created by the project, c. Roads and utilities should share common right-of-ways where possible, d. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, e. Place signing to limit off-road travel in sensitive areas, f. Stay on designated routes and other cleared/approved areas, and g. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas. 4. Within occupied habitat³, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants: <ol style="list-style-type: none"> a. Follow the above (#3) recommendations for project design within suitable habitats, b. Buffers of 300 feet minimum between the edge of the right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated, c. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat to ensure the pipelines don't move towards the population, d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
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⁷ Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

⁸ Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Uinta Basin hookless cactus. Habitat descriptions can be found in the U.S. Fish and Wildlife Service's 1990 Recovery Plan and Federal Register Notices for the Uinta Basin hookless cactus (<http://www.fws.gov/endangered/wildlife.html>).

⁹ Occupied habitat is defined as areas currently or historically known to support Uinta Basin hookless cactus; synonymous with "known habitat."

	<ul style="list-style-type: none"> e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, f. Designs will avoid concentrating water flows or sediments into occupied habitat, g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied Pariette cactus and Uinta Basin hookless cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 100' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.</p> <p>6. Re-initiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Pariette cactus and Uinta Basin hookless cactus is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.</p>
T&E-20	<p style="text-align: center;">CLAY REED - MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for clay reed-mustard under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:</p> <p>In order to minimize effects to the federally threatened clay reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). The following avoidance and minimization measures should be included in the Plan of Development:</p> <ul style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹⁰ prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present. 2. Site inventories will be conducted within suitable habitat¹¹ to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300-foot buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories: <ul style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied¹² habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),

¹⁰ *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

¹¹ *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <<http://www.fws.gov/endangered/wildlife.html>>.

¹² *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

	<ul style="list-style-type: none"> c. Will occur within 300 feet from the edge of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until May 1st the following year. <p>3. Design project infrastructure to minimize impacts within suitable habitat²:</p> <ul style="list-style-type: none"> a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300-foot buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, b. Reduce well pad size to the minimum needed, without compromising safety, c. Limit new access routes created by the project, d. Roads and utilities should share common right-of-ways where possible, e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, f. Place signing to limit off-road travel in sensitive areas, and g. Stay on designated routes and other cleared/approved areas. <p>4. Within occupied habitat³, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300-foot buffers, , in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, b. Follow the above recommendations (#3) for project design within suitable habitats, c. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged, d. Construction of roads will occur such that the edge of the right of way is at least 300 feet from any plant and 300 feet from avoidance areas, e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only, f. The edge of the well pad should be located at least 300 feet away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, g. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and plants and 300 feet between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, h. Construction activities will not occur from May 1st through June 5th within occupied habitat, i. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied clay reed-mustard habitats within 300 feet of the edge of the surface pipelines' right of ways, 300 feet of the edge of the roads' right of ways, and 300 feet from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>6. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the clay reed-mustard is anticipated as a result of project</p>
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	<p>activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.</p>
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APPENDIX B, MAPS OF PARCELS

Shape files are provided on the Oil and Gas Webpage.

APPENDIX C, INTERDISCIPLINARY TEAM CHECKLIST**Project Title:** November 2012 Oil and Gas Lease Sale**NEPA Log Number:** DOI-BLM-UT-G010-2012-174-EA**File/Serial Number:** N/A**Project Leader:** Nate Packer**DETERMINATION OF STAFF:**

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI: Air Quality NI: Greenhouse Gases	Air Quality (including Greenhouse Gas Emissions)	<p>Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.</p> <p>In addition to the air quality information contained within the governing LUP, new information about greenhouse gases (GHGs) and their effects on national and global climate conditions has emerged since LUP was prepared. Without additional meteorological monitoring and modeling systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions; what is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change.</p> <p>Determining GHG emissions, their relationship to global climatic patterns, and the resulting impacts is an ongoing scientific process. The BLM does not have the ability to associate a BLM action's contribution to climate change with impacts in any particular area. The technology to be able to do so is not yet available. The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level and determining the significance of any discrete amount of GHG emissions is beyond the limits of existing science. When further information on the impacts to climate change is known, such information would be incorporated into the BLM's planning and NEPA documents as appropriate.</p> <p>It is currently not feasible to know with certainty the net impacts from leasing and any potential exploration on climate. While BLM actions may contribute to the climate change phenomenon, the specific effects of those actions on global climate are speculative given the current state of the science. Leasing the subject parcels would have no direct impacts on climate as a result of</p>	Stephanie Howard	4/10/12

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Determination	Resource	Rationale for Determination	Signature	Date
		GHG emissions. There is an assumption; however that leasing the parcels would lead to some type of exploration that would have indirect effects on global climate through GHG emissions. However, those effects on global climate change cannot be determined. It is unknown whether the petroleum resources specific to these parcels are gas or oil or a combination thereof. Since these types of data as well as other data are unavailable at this time, it is also unreasonable to quantify GHG emission levels. Stipulation UT-S-01 and notices UT-LN-99 and UT-LN-102 would be applied to all parcels.		
PI	Areas of Critical Environmental Concern	Red Creek (042) and Nine Mile (015) ACECs are present. Application of stipulations UT-S-23 and UT-S-24 is warranted.	Jason West	6/5/12
NP	BLM Natural Areas	None present as per GIS layer review	Nate Packer	5/30/12
PI	BLM Sensitive Plant Species	The following UT BLM sensitive plant species have been identified as having potential habitat within one or more federal surface parcels: Horseshoe milkvetch (<i>Astragalus equisolensis</i>), Hamilton milkvetch (<i>Astragalus hamiltonii</i>), Barneby's catseye (<i>Cryptantha barnebyi</i>), Graham's catseye (<i>Cryptantha grahamii</i>), Goodrich's penstemon (<i>Penstemon goodrichii</i>), <i>Townsendia strigosa</i> var. <i>prolixa</i> , and <i>Yucca sterilis</i> . Application of appropriate lease notices is required (UT-LN-49 [all parcels], UT-LN-51 [all parcels], UT-LN-89)[parcel 32].	Aaron Roe	5/3/12
NI	Cultural Resources	A complete inventory of the proposed lease parcels has not occurred; however cultural resource sites have been identified within the parcels. After consideration of cultural resource information and other general data including: the applicable Vernal Field Office Resource Management Plan (RMP) and associated Environmental Impact Statement (EIS); oil and gas activity NEPA documents; specific data relating to the individual proposed parcels such as topography and soils; as well as personal knowledge and experience of the lands at issue, it has been determined that reasonable development could occur without adverse impacts to cultural properties eligible to the NRHP. The potential for locating additional cultural resources within the proposed lease parcels low to moderate. The BLM will not approve any ground disturbing activities that may affect such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated. Application of the cultural resources protection stipulation (WO IM 2005-003) is warranted for all parcels. SHPO and Tribal consultation is ongoing.	Cameron Cox	6/5/12

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Determination	Resource	Rationale for Determination	Signature	Date
NI	Environmental Justice	Leasing the nominated parcels would not cause any disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are fee (private) or federal, and the surface is private or BLM.	Stephanie Howard	6/21/2012
NI	Farmlands (Prime or Unique)	In Duchesne County (parcel 015) soils have not been surveyed so prime and unique farmlands have not been designated (NRCS's Duchesne County Utah Resource Assessment Aug. 2005). In Uintah County, parcels 015, 025, 032, 037, 040, and 042 are not located within prime farmland, which is "land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion". (NRCS's Uintah County Utah Resource Assessment Aug. 2005).	Nate Packer	5/30/12
PI	Fish and Wildlife Excluding USFWS Designated Species	Raptor habitat is present in all parcels. Application of lease stipulation UTISO-S-261 to all parcels, UTISO-S-278, UT-T&E-01, and UT-LN-37 to parcel 25 should be sufficient to address these concerns.	Daniel Emmett	5/16/12
NI	Floodplains	Concerns for floodplains are limited. Small portions of the mapped 100 year floodplain are found in parcels 15, 25, 37, and 40. Impacts to these areas are mitigated by Lease Stipulation UT-S-123 which states "No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas." The lease sale in itself would not cause impacts to flood plains. If any of the proposed parcels are sold, an onsite inspection during the permit to drill process would prevent impacts to floodplains whether HUD or non-HUD inventoried.	Nate Packer	5/30/12
NI	Fuels/Fire Management	There are no past or planned Fuels projects in the area. The proposed disturbances may increase the chance of invasive species; primarily <i>Bromus tectorum</i> . <i>Bromus tectorum</i> can raise the frequency and rate of spreads of wildfires in the area. The proposed reclamation standards should minimize the potential for additional invasive species.	Blaine Tarbell	4/16/12
NI	Geology / Mineral Resources/Energy Production	Part of the listed area falls into the Argyle Canyon and Sunnyside designated Tar Sands Area. The proposed project would not prevent the Tar Sands from being extracted. Gilsonite trends through or near several of the locations. If gilsonite is encountered during drilling or construction, please report that information to BLM VFO. The depth and thickness of the vein is important information that should be provided to BLM. Natural gas, oil, gilsonite, oil shale and tar sand are the only mineral resources that could be present in the project area. Production of natural gas or oil would deplete reserves, but the proposed project allows for the recovery of natural gas and oil per 43 CFR 3162.1(a), under the existing Federal lease. Compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations" would assure that the project would not adversely affect Gilsonite, oil shale, or tar sand deposits. Due to the state-of-the-art drilling	Andrew McCormick	4/11/12

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Determi- nation	Resource	Rationale for Determination	Signature	Date
		and wells completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action would be negligible.		
NI	Hydrologic Conditions (stormwater)	Leasing activity alone would not have impacts to the hydrologic conditions (stormwater). However if after energy permitting oil & gas development were to occur then changes to surface water patterns and potential stormwater impacts could occur. Onsite inspection and consideration of development in relation to Section 402 of the Clean Water Act would be analyzed.	Nate Packer	5/30/12
NI	Invasive Plants/Noxious Weeds, Soils, and Vegetation	<p>Leasing per se, will not negatively impact invasive plants, soils, or, vegetation. However, there is an expectation that development will occur in the future, at which time additional NEPA would be conducted. Any activity that involves surface disturbance or direct resource impacts would have to be authorized as a lease operation through future NEPA analysis, on a case-by-case basis. At the development stage, mitigation measures and best management practices will need to be incorporated to minimize the short and long term impacts to the native vegetation community, soil, and, the spread of undesirable non-native plant species.</p> <p>NSO stipulations were developed in the Vernal RMP for areas having slopes greater than 40%. All lease parcels with known 40% slopes have stipulations attached (UTSO-S-96 and UTSO-S-100). Hydrologic and soil conditions are variable across the remaining proposed parcels.</p> <p>Required mitigation measures for invasive plants will need to at minimum meet the standards set forward within the Vernal Field Office Surface Disturbance Weed Policy (IM-UTG010-10-001). Future site specific NEPA should discuss the non-native species present, the likelihood they would spread, the developed mitigation measures, and information on chemical weed control and how it tiers to the National and local programmatic guidance.</p>	<p>IP/Veg: Aaron Roe</p> <p>Soils: Steve Strong</p>	5/3/12
NI	Lands/Access	<p>The proposed area is located within the VFO RMP/ROD area, which allows for oil and gas development with associated road, pipeline and power line right-of-ways. Oil and gas leasing is not expected to affect access to public lands. Leasing would be subject to all valid pre-existing rights.</p> <p>Any proposals for future projects within the oil and gas lease area would be reviewed on a site-specific basis and other right-of-way holders in the area would also be notified, as per regulations, when an application for right-of-way is received by this office.</p>	Katie Nash	5/15/12
PI	Lands with Wilderness Characteristics (LWC)	Parcel 025 falls within the Desolation Canyon inventory unit that has wilderness characteristics. Other parcels have not had a wilderness character inventory completed. However, the Vernal RMP contains a decision to not manage for wilderness characteristics in any of the areas covered by the parcels.	Jason West	6/5/12
NI	Livestock Grazing	Of the parcels offered for this lease sale, 6 are within active cattle and sheep allotments managed by the Vernal	Dusty Carpenter Jannice Cutler Michael Cutler	6/5/12

Determination	Resource	Rationale for Determination	Signature	Date
		Field Office. Leasing of the parcels will not impact livestock grazing.. Potential future development of oil and gas operations on leased parcels may have impacts to grazing which will be analyzed on a site specific basis when an Application for Permit to Drill (APD) is received. At that time implementation of the Green River District Office Reclamation Guidelines will help to reduce future potential impacts to grazing and rangeland health. There are existing range improvements and studies within the proposed lease parcels that will need to be avoided by 200 meters during the development of oil and gas facilities (43 CFR 3101.1-2). Avoidance of range improvements and studies would minimize potential impacts. If that is not possible, the operator will be required to repair or replace range improvements and studies that are damaged by future oil and gas development activities. When an APD is received, the information from an onsite visit and site specific NEPA will be used to analyze the potential impacts to livestock grazing and range improvements and studies.	Stan Olmstead	
PI	Migratory Birds	Migratory birds are present within all of the proposed parcels. Application of the migratory bird lease notice (UT-LN-45 Migratory Birds) would be adequate for the leasing stage.	Daniel Emmett	5/16/12
NI	Native American Religious Concerns	The following tribes were notified of the proposed lease sale via certified letter: Northwest Band of Shoshone Nation, Goshute Tribe, White Mesa Ute Tribe, Laguna Pueblo Tribe, Santa Clara Pueblo Tribe, Navajo Nation, Ute Tribe, Hopi Tribe, Southern Ute Tribe, Ute Mountain Tribe, Zia Pueblo Tribe, and the Eastern Shoshone Tribe. Maps of the parcels were provided to each of the tribes. They were asked to identify traditional cultural places or any other areas of traditional cultural importance that need to be considered within the APE. Response letter from Hopi Tribe, dated May 16, 2011 requested a copy of the Class I cultural survey. Response letter from Laguna Pueblo Tribe, dated May 13, 2011, concurred with no impact determination.	Cameron Cox	6/5/12
NI	Paleontology	No documented occurrences of valuable paleontological resources occur within the any of the parcels with BLM surface. Paleontology surveys will need to be conducted for parcels on BLM land before any exploratory or operational surface disturbance can take place If these paleo surveys discover any significant fossils appropriate mitigation measures will be followed to protect valuable paleontological resources.	Elizabeth Gamber	4/16/12
NI	Rangeland Health Standards	See above livestock grazing section. Leasing of the parcels will not impact Rangeland Health. Future development of the leases could impact rangeland health but the potential impacts will be addressed in site specific NEPA analysis when an Application for Permit to Drill is received. At that time implementation of the Green River District Office Reclamation Guidelines will help to reduce future potential impacts to grazing and	Dusty Carpenter Jannice Cutler Michael Cutler Stan Olmstead	6/5/12

November 2011 Oil and Gas Lease Sale, DOI-BLM-UT-G010-2012-174-EA

Determination	Resource	Rationale for Determination	Signature	Date
		rangeland health.		
PI	Recreation	Nine-Mile SRMA is present. Application of UT-LN-106 (SRMA) is warranted for parcel 015.	Jason West	6/5/12
NI	Socio-Economics	No impact to the social or economic status of the counties or nearby communities would occur from the leasing of these parcels due to their small size in relation to ongoing development throughout the Uinta Basin.	Nate Packer	5/30/12
PI	Threatened, Endangered or Candidate Animal Species	Federally listed fish: All parcels are anticipated to have water depletion. Application of lease notice UT-T&E-03 to all parcels should be sufficient to address these concerns. In addition, the Endangered Species Act Stipulation from WO IM 2002-174 would be attached to the parcels.	Daniel Emmett	5/16/12
PI	Threatened, Endangered, Proposed, or Candidate Plant Species	Potential habitat for the following candidate, proposed, and federally listed plant species have been identified within one or more lease parcels: Graham's beardtongue (<i>Penstemon grahamii</i>), White River penstemon (<i>Penstemon scariosus</i> var. <i>albifluvis</i>), clay reed-mustard (<i>Schoenocrambe argillacea</i>), and Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>). Application of appropriate lease notices is required (UT-LN-49 [all parcels], UT-LN-90 [015,040], T&E-05 [all parcels], T&E-12 (32, 37), T&E-20 (25). In addition, the Endangered Species Act Stipulation from WO IM 2002-174 would be attached to the parcels. During the development of the proposed leases, taking into account additional proposed or required avoidance and mitigation measures as allowed through the lease notices, impacts to the species will be analyzed and Section 7 consultation with the US Fish and Wildlife Service will be conducted	Aaron Roe	5/3/12
NI	Visual Resources	VRM Class IV Identified for parcel 025 and 032. VRM III identified for parcel 015, 040, and 042. Both allow for development of public lands. Class III is the more restrictive of the two, and the objectives for Class III state: "The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape." Best Management Practices will be utilized in both VRM Class III and IV areas to protect VRM values. Site specific NEPA will be conducted for individual development projects which may restrict or modify site locations and design elements to ensure VRM Class III objectives are met where appropriate. Application of UT-S-157 is warranted for all parcels.	Jason West	6/5/12
NI	Wastes (hazardous or solid)	The analysis in the Vernal RMP is sufficient. No hazardous or solid waste sites are known to be present. No hazardous or solid waste sites are anticipated to occur as a result of leasing. No stipulations or lease notices apply.	Nate Packer	5/30/12

November 2011 Oil and Gas Lease Sale, DOI-BLM-UT-G010-2012-174-EA

Determi-nation	Resource	Rationale for Determination	Signature	Date
NI	Waters of the U.S.	Water of the U.S. are not present on any of the 6 parcels offered for sale. Therefore no impact would occur and a USACE permit is not required.	Nate Packer	5/30/12
Surface: NI Gr: NI	Water Resources/Quality (surface/ground)	Surface: Sale of the 6 lease parcels would not cause any change in surface water quality. However if at the time that an Application for Permit to Drill would occur on the parcel an onsite inspection would consider surface disturbance, spill prevention, and potential impacts to water quality. Groundwater: Compliance with "Onshore Oil and Gas Order No. 1, will assure that the project will not adversely affect groundwater quality. Due to the state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of groundwater quality or prospectively valuable mineral deposits by the proposed action will be negligible. Provisions under UT IM UT 2010-055 would be applied as warranted at the APD stage.	Nate Packer Gr: Elizabeth Gamber	5/30/12 4/16/12
NI	Wetlands/Riparian Zones	Small portions of the mapped 100 year floodplain are found in parcels 15, 25, 37, and 40. Impacts to these areas are mitigated by Lease Stipulation UT-S-123 which states "No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas."	Nate Packer	5/30/12
NP	Wild and Scenic Rivers	None present as per GIS layer review	Nate Packer	5/30/12
NP	Wild Horses and Burros	None of the parcels are within herd management areas or herd areas.	Stephanie Howard	6/21/2012
NP	Wilderness/WSA	None present as per GIS layer review	Nate Packer	5/30/12
NI	Woodland / Forestry	Leasing action would have no impact on woodlands.	Dave Palmer	5/30/12

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator	<i>Unsigned</i>	--	--
Authorized Officer	<i>Unsigned</i>	--	--

APPENDIX D COMMENT RESPONSE TABLE

Number	Comment	Response
SUWA		
1	<p>BLM must conduct environmental analysis at the leasing stage while it still retains full discretion regarding its management decisions. In the case of air quality impacts and impacts to other resources, the BLM appears to be pushing that analysis off to some other day. This is prohibited by the NEPA.</p> <p>At the leasing stage, BLM makes an “irrevocable commitment” to allow construction of roads, well pads, and pipelines. Once the lease is issued, BLM no longer has the authority to prevent some level of development. Because the issuance of the proposed November 2012 leases is the point of commitment, BLM must fully consider the environmental impacts of the leases, including air pollution, before issuing them.</p>	<p>As described by the WO¹³, management of onshore federal oil and natural gas resources occurs in five distinct phases. Nothing changes on the ground as a result of a lease being issued. Likewise, no surface disturbance may begin on a lease without associated permits including the APD. BLM cannot approve an APD until the requirements of certain laws and regulations have been met, including CAA, NEPA, NHPA and ESA.</p> <p>BLM notes that this November 2012 lease sale EA complies with the level of NEPA analysis outlined in WO IM-2010-117 and is consistent with the National MOU for air quality. When and if an APD is submitted, BLM will also initiate NEPA that will invite additional public participation and consultation with agencies with expertise and jurisdiction by law. Based on that analysis, additional constraints may be imposed at the APD stage.</p> <p>The BLM’s analysis of potential air quality impacts and its related values are provided throughout the EAs (Vernal at sections 3.3.1, 4.2.1, 4.2.2, 4.3.1 and appendices A & C and Price at sections 3.3.1, 4.3.1.1, 4.3.2.1, 4.3.3.1 and appendices A & C). Controls for the management of air quality are established in EAs and are based on the avoidance and minimization measures that should be considered in a future plan of development.</p> <p>Given the projected level of emissions and air quality analysis in the WTP EIS and GNG EIS (as supplemented) BLM has determined that this level of NEPA analysis is appropriate.</p>
2	<p>Particulate matter and ozone pollution are serious problems in the Uinta Basin. Monitors in the Uinta Basin reveal that ozone and fine particulate pollution concentrations have now reached levels in excess of federal air quality standards, something that neither the Vernal nor Price resource management plans (RMPs) ever</p>	<p>Within the EAs (section 3.3.1 of both EAs) and in other documents and correspondence between/among EPA, BLM acknowledges pollution levels that have exceeded NAAQS within the Uinta Basin and the corresponding data sets obtained from the EPA and UDAQ which document those exceedences.</p>

¹³ Accessed online at: http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/leasing_of_onshore.html. The phases include planning, nomination/sales, permitting/development, operations/production and plugging/reclamation.

Number	Comment	Response
	<p>considered and something that the Vernal EA and Price EA only acknowledge in passing.</p> <p>Ozone and PM_{2.5} values in the Uinta Basin, the area of these six contested leases, have recently been recorded well in excess of federal air quality standards.</p>	<p>Ozone concentrations during winter inversion events are currently the only air quality issue of note in the Uinta Basin (SUWA's allegations notwithstanding), and BLM describes the current state of knowledge related to this phenomenon in Section 3.3.1 of the draft EAs. This description is not acknowledging the ozone issue "in passing", but is an accurate and complete description of the winter ozone problem as understood today. Contrary to commentor's allegation, particulate matter is currently not an issue in the areas covered by this leasing action. Particulate concentrations have been measured above the current NAAQS in the town of Vernal, which the EA also notes, but has not been linked to oil and gas development in the Uinta Basin. While it is possible that oil and gas development may be contributing to this, no evidence exists to document this and commentor is engaging in pure speculation to try to link these readings to oil and gas operations. This is also explained in the EA.</p>
3	<p>The Vernal EA and Price EA acknowledge that oil and gas development has likely caused exceedances of federal air quality standards for ozone and PM_{2.5} in the Uinta Basin. Two of the biggest air quality problems associated with oil and gas development are ground level ozone and PM_{2.5}.</p> <p>The pollution emissions of oil and gas projects are measurable; this evidence repudiates the Vernal and Price EAs' unsubstantiated claims to the contrary that quantitative analysis or additional analysis of these contributions would not be helpful at this point.</p> <p>Not only are oil and gas development and production emissions measurable and quantifiable, they are, at the very least, sufficient to exacerbate poor air quality in the Uinta Basin. BLM's claims to the contrary in the Vernal EA and Price EA lack evidence or support and are contradicted by analyses the BLM itself has done on other occasions, as well as the Price and Vernal EAs themselves. BLM must support its claims with adequate evidence in these EAs.</p>	<p>BLM states that oil and gas development has likely contributed to exceedances of the ozone standard. BLM notes that there is little evidence to suggest this development activity is contributing substantially to any PM_{2.5} issues in the Uinta Basin.</p> <p>BLM is not stating that the emissions from oil and gas activities are not measureable but that the amount, location, and duration of future oil and gas operations cannot be known at the leasing stage (verses that of the project stage, as stated by the commentor) with enough certainty to conduct quantitative modeling that will produce results that could reasonably be used in decision making. Modeling is only an accurate and useful analytical tool for NEPA if specific source and operations data is available. In the case of leasing decisions this data is not available, and modeling would be at best speculative and certainly not reflective of actual impacts associated with these actions. A recent IBLA decision upholds this reasoning (IBLA 2011.133), and BLM reiterates that modeling at the leasing stage is neither warranted nor useful. Once specific projects are proposed resulting from a lease sale</p>

Number	Comment	Response
	<p>The EPA has notified BLM of its concerns that elevated ozone levels in the Vernal Field Office are likely to increase due to current oil and gas development. Modeling and analysis conducted by the BLM confirms this. The Vernal EA and Price EA acknowledge that oil and gas development is responsible for the elevated levels of ozone in the Uinta Basin. A recent environmental analysis released by the BLM also acknowledged that oil and gas development was likely responsible for elevated ozone levels in the Uinta Basin.</p> <p>According to the EPA, this increase is “considered a significant project-specific contribution given the recent ozone monitored exceedances in the Uinta Basin.” The EPA also notified the BLM that this project had the “potential to contribute to significant impacts to PM_{2.5}.” The BLM routinely prepares PM_{2.5} analyses for oil and gas development in the Vernal Field Office; these analyses consistently show measurable, impactful increases in this pollutant. Thus, proposed development on existing leases in the Uinta Basin is already likely to continue and to further exacerbate poor air quality. Oil and gas development in the Uinta Basin contributes measurable, impactful levels of ozone and PM_{2.5} pollution. In light of the poor air quality in the Uinta Basin as a result of these two pollutants, those contributions are particularly damaging. These contributions have not been fully acknowledged and analyzed by the BLM in the Vernal and Price EAs.</p>	<p>BLM can and does undertake appropriate analysis before approving these projects. This is a routine and effective function of BLM, and there are many examples of this analysis taking place. To suggest that simply because BLM approves a lease sale that development will occur without proper air quality analysis and controls is to ignore the actual practice that takes place when develop occurs on these lands.</p> <p>BLM is not claiming that emissions from oil and gas development could not or would not exacerbate existing air quality problems. BLM believes oil and gas development is contributing to existing ozone exceedance issues. BLM anticipates activities from this lease sale could contribute a minor amount to future exceedances. Based on the RFD for this lease sale and the controls identified in the EAs, BLM believes it is unlikely that emissions from this level of activity would majorly impact or exacerbate existing or potential future ambient ozone concentrations that haven’t already been analyzed in the WTP or GNB EISs.</p> <p>BLM does not “routinely” conduct PM_{2.5} analyses, nor has the analyses that have been done to date show measurable impactful increases in this pollutant.</p>
4	<p>BLM has not taken a hard look at the adverse effects of oil and gas development on air quality and it cannot approve development that will exceed federal air quality standards. Parcels 15, 16, 19, 20, 25 and 42 are located within the Uinta Basin airshed.</p> <p>BLM recognizes ozone and PM_{2.5} pollution yet the EAs state that contributions would be negligible and that they are not likely to contribute to any violations of standards or at the very least will only contribute a small amount to future exceedances of air quality standards. BLM appears to commit to prepare dispersion modeling at the site-specific proposal stage before development</p>	<p>The BLM disagrees that the Vernal and Price November 2012 lease sale EAs contradict each other or within the individual EAs themselves and the commentor does not provide BLM with the specific locations of the implied contradictions. BLM cannot logically follow the commentor’s points.</p> <p>BLM acknowledges that oil and gas development contributes to elevated levels of ozone pollution; however, this is not the case with particulate matter (PM_{2.5}). Particulate matter contributions have not been proven in this case.</p> <p>Within the comments, errors are not identified with respect to the</p>

Number	Comment	Response
	<p>will take place.</p> <p>The Vernal and Price EAs are contradictory in their air quality analysis and as a result, have not taken a hard look at the impacts of these potential leasing decisions on air quality. The internal inconsistency in the Vernal EA and Price EA must be eliminated and the BLM must perform this modeling analysis now, before it has issued these leases before it has committed to development. Considering the poor air quality of the region, it is not clear that any development can take place without further exacerbating already poor air quality levels.</p> <p>BLM's Vernal and Price EAs claim that modeling at the prelease stage is not an accurate way to identify possible impacts. This explanation, however, conflicts with prior declarations by the BLM, with BLM's practice, with reasonably foreseeable development scenarios the agencies has constructed, and with guidance from the EPA.</p> <p>The BLM's repeated use of dispersion modeling on various projects demonstrates that the agency does find it useful for estimating impacts and quantifying them. It also shows that such models may be prepared well before leasing.</p> <p>In addition, the EPA, the agency charged with protecting the nation's air quality and the technical expert in this realm, has continually indicated to BLM that modeling is useful and worthwhile.</p> <p>The BLM has already developed reasonably foreseeable development scenarios for how development might take place on leased parcels. These scenarios, which are used to project potential impacts to other resources, can easily be applied to air quality impacts analysis. BLM has not explained why such projections could not be applied to air quality development.</p> <p>The Vernal RMP did not analyze the potential contributions to ozone pollution from oil and gas development. The Price RMP did not prepare any quantitative modeling.</p> <p>To comply with NEPA's "hard look" requirement, BLM must</p>	<p>application of the air quality stipulation (UT-S-01) or with lease notices UT-LN-97 (West Tavaputs), UT-LN-99 (Regional Ozone Formation Controls) and UT-LN-102 (Air Quality Analysis) for all applicable best management practices that would apply at the development stage for the subject parcels. Air quality is also affected by how well soil resources are managed. As such, concerns were not identified with BLM's application of the stipulations for steep slopes, springs, streams, high country watersheds or noxious weed control.</p> <p>Informative and accurate modeling cannot occur before development proposals including locations, equipment, and development levels are known. The only reasonable foreseeable development on these parcels is exploratory at this stage. At the projected RFDs, development impacts would indeed be "negligible" and "only contribute a small amount" or have been analyzed in previous documents. It is critical to note that BLM acknowledges that even at the minor level of development forecast by the RFDs, BLM is acknowledging that emission will contribute, albeit to a minor level, to existing air quality issues. It is not until larger development is proposed that potential impacts and appropriate mitigation can be conclusively defined through more extensive analysis, including photochemical modeling where appropriate. Appropriate air quality controls are attached as stipulations or lease notices including those defined in the WTP and GNB EIS for the parcels located within the WTP project area. BLM notes that an important distinction is made here. The BLM thanks the commentor for acknowledging our efforts at project modeling and that it is done when modeling is appropriate. Modeling at the <u>project</u> stage has been and will continue to be used to estimate air pollution impacts from BLM authorized activities. BLM does not know, at the present time, what projects may or may not occur on these parcels beyond the RFDs identified in the EAs. It is possible that further development may be proposed resulting from the exploratory development reflected by the RFDs, and if and when that occurs, BLM will incorporate</p>

Number	Comment	Response
	<p>explain how its actions will or will not comply with environmental laws and policies, such as NAAQS. In fact, the Federal Land Policy and Management Act requires BLM to ensure that its approval of oil and gas development complies with all applicable air quality standards. BLM must analyze air emissions associated with oil and gas development, and determine whether those emissions will result in violations of federal air quality standards.</p> <p>In analyzing the air quality impacts of its actions under NEPA, BLM must pay special attention to the degree to which the proposed action affects public health or safety. BLM's failure to analyze ozone pollution and the potential contributions from development of these six leases to those pollution levels are fatal and do not satisfy the agency's NEPA hard look requirement. The agency has neglected its duty to inform the public of whether it will comply with air quality standards and to discuss the potential public health impacts for a pollutant – ozone – that can lead to adverse health effects in humans such as decreased lung function and possible cardiovascular-related mortality and respiratory morbidity. Also, because the BLM's analysis here does not include information on elevated levels of PM_{2.5} that have recently been recorded in the Uinta Basin, it has not satisfied its hard look obligations for discussing how impacts will not comply with federal air quality standards as well as public health effects.</p> <p>The Vernal and Price EAs acknowledge that air pollution levels will continue to exceed federal air quality standards and that this development will add to that pollution, even if such contributions are minor. The BLM may not permit this and therefore may not offer these seven leases.</p> <p>BLM's proposed air quality pollution mitigation measures in the Vernal and Price EAs will not eliminate emissions. Since air quality of the Uinta Basin is already exceeding federal air quality standards, new sources of pollution will only further exacerbate that problem.</p>	<p>that site specific information needed to conduct modeling. Modeling was conducted for the WTP and GNB EIS in which BLM tiers to or incorporates by reference in this EA for the parcels located within the WTP project area.</p> <p>The commentor maintains that the BLM's repeated use of dispersion modeling on various projects demonstrates that the agency does find it useful for estimating impacts and quantifying them and that it also shows that such models may be prepared well before leasing. The BLM maintains that the use of modeling at the project stage in no way says anything about the feasibility of doing modeling "well before leasing." If anything, it repudiates that notion.</p>

Number	Comment	Response
	<p>BLM attempts to rely on air quality analysis performed in various outside documents to consider air quality impacts here. However, this reliance is misplaced and does not satisfy BLM's NEPA or FLPMA obligations.</p> <p>BLM cannot now rely on the air quality studies presented in the West Tavaputs EIS, the Uinta Basin Air Quality Study, Greater Natural Buttes or Gasco.</p>	
5	<p>The BLM did not consider the effects of its decision to issue these seven leases on climate change or how climate change will impact the resources related to the development of these seven leases.</p> <p>The EPA has pointed out the inadequacies of BLM's analysis and the BLM itself has now begun preparing some climate change analysis in other documents, demonstrating that this may be done. Unfortunately, the BLM's protest decision merely attempts to explain its refusal to conduct this analysis at the lease sale stage, the point of an irreversible and irretrievable commitment of resources.</p> <p>In Secretarial Order 3289, Secretary Salazar stated that BLM "must consider and analyze potential climate change impacts when undertaking long-range planning exercises" and also made clear that the requirements in Secretarial Order No. 3226 remain in effect. Order 3226, issued by then-Interior Secretary Bruce Babbitt, requires BLM to "consider and analyze potential climate change impacts" when undertaking long-range planning exercises, including specifically "management plans and activities developed for public lands." These Orders are enforceable and demand BLM's compliance. The issuance of these six leases and the potential oil and gas development that would ensue constitute the sort of activity on public lands where BLM must consider climate change. Whether this analysis should have taken place at the resource planning stage or the lease issuance stage, BLM's actions here appear more reflective of an attempt to avoid this analysis by pushing it off to some other phase (which phase never comes).</p>	<p>BLM has not made a decision as to whether these parcels will be leased and continues with the NEPA process. Numerous statements are made about a "decision" and "protest decision" within this comment. Where this occurs the BLM believes these are remnants of other correspondence with the BLM and that it would not apply to this situation.</p> <p>Greenhouse gases and climate change were discussed at EAs. Climate change is acknowledged in both field office Proposed RMP/Final EIS. BLM incorporates the corresponding information and analysis. In addition, BLM also incorporates the analysis completed for the West Tavaputs Plateau and Greater Natural Buttes EISs. As the tools for predicting climate change improve and policy for determining effects of climate change is solidified, BLM remains committed to adjust management accordingly at that time. BLM follows current guidance from both the national office of BLM and from CEQ in deciding the appropriate level of analysis. Both EAs followed those guidelines, and is sufficient for purposes of these documents.</p> <p>BLM reviewed the information provided regarding disturbed desert dust and impacts to snowpacks and believes that attempting to complete such analyses at the leasing stage would not lead to accurate, useful results, would not be an appropriate use of the agency's time and resources and would be pure conjecture that would not lead to an informed Bureau decision.</p> <p>Instead, BLM refers the public to the discussions associated with particulate matter in whole. Air quality mitigation and controls have been specifically prepared with the guidance and</p>

Number	Comment	Response
	<p>Under NEPA, BLM must adequately and accurately describe the environment that will be affected by the proposed action. This includes the affected environment as modified by climate change. BLM did not adequately conduct any analysis of the effects of climate change in the Vernal RMP nor did the agency consider the greenhouse gas contributions of reasonably foreseeable oil and gas development originating in these six lease parcels. In the Vernal RMP, BLM claimed that it could not analyze the impacts of climate change due to lack of tools for quantification, including a lack of guidance from EPA. The same goes for the Price RMP. However, EPA rejected that precise argument in its comments on the Vernal RMP, stating that “NEPA requires federal agencies to take a hard look at potential environmental impacts associated with their proposed actions” and the “[l]ack of regulatory protocol or emission standards for greenhouse gases does not preclude BLM from fulfilling this responsibility.”</p> <p>The BLM attempts to waive away these issues by asserting that it is too soon to address issue of climate change. However, such an argument ignores the fact that this analysis must take place at the point of irreversible and irretrievable commitment. These six oil and gas leases do not prohibit all surface use and therefore constitute an “irreversible and irretrievable commitment of resources.” This argument also ignores the conclusion of the EPA that the Vernal and Price RMPs do not adequately analyze greenhouse gas emissions from oil and gas development and that an “[a]nalysis of greenhouse gas emissions will still be needed for future NEPA compliance regarding the approval of oil and gas operation in the Vernal planning area.” The same goes for the Price planning area.</p> <p>This oversight and obfuscation by BLM is significant. As the agency explains elsewhere, the Council on Environmental Quality released draft guidance for how NEPA analyses should consider and evaluate greenhouse gas emissions as well as climate change. “Specifically, where a proposed action is anticipated to cause direct, annual emissions of 25,000 metric tons or more of CO₂-</p>	<p>recommendations of the EPA.</p> <p>BLM notes another important distinction. Logic dictates that reasoned approach must be taken to estimate air pollution or perceived impacts to global climate change from BLM authorized activities. BLM must first adhere to the agreements made with the EPA by following procedures outlined in the Air Quality MOU and those of stemming from the WTP ROD.</p>

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	<p>equivalent greenhouse gas emissions, a quantitative and qualitative assessment is required together with the consideration of mitigation measures and reasonable alternatives to reduce greenhouse gas emissions.” Id. BLM has recently evaluated a one hundred-well-per-year development in the Vernal Field Office that would result in over 63,870 tons per year of carbon dioxide, a greenhouse gas.</p> <p>BLM has at its disposal guidance regarding climate change analysis and that guidance suggests that these six leases could facilitate development exceed a significant threshold. BLM’s lack of analysis constitutes a failure to take a hard look at the impacts of its decision on climate change.</p> <p>The Price and Vernal EAs also fail to consider the pressing issue of disturbed desert dust being deposited on nearby mountain snowpack, in turn leading to early snowmelt and increased regional temperatures, which is directly related to the larger phenomenon of climate change.</p> <p>The BLM should analyze the impacts of all the surface disturbing activities that would be permitted in the leasing of the parcels offered in the November 2012 lease sale along with the potential impacts of ongoing and reasonably-foreseeable activities in the Vernal and Price planning areas on the phenomenon of dust melting snow. In addition to qualitative analysis, the BLM can at least quantify total suspended particulates that are likely to be generated by wind erosion on the disturbed surfaces described above; this is something BLM already knows how to do and has employed in some projects.</p>	
6	<p>Lease parcels 15, 16, 19 and 20 were previously offered by the BLM in the December 2008 oil and gas lease sale. These parcels were deferred from that lease sale; however, a number of adjacent parcels were offered. These adjacent parcels were later withdrawn after a federal court issued a temporary restraining order and the Secretary of the Interior then determined that the parcels were being offered with inadequate, flawed analysis.</p>	<p>SUWA correctly notes that portions of the lands encompassed by parcels UT1112-015, UT1112-016, UT1112-019 and UT1112-020 were previously under consideration in the December 2008 lease sale and that they were deferred.</p> <p>SUWA submitted similar comments on the November 2011 lease sale EAs. The subject parcels at that time were: UT1111-017, UT1111-018, UT1111-019, UT1111-020 and UT1111-022 (Stiles</p>

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	<p>Subsequently, the BLM sent a team of agency staff to investigate these parcels; this investigation was compiled into a report known as the “Stiles Report.”</p> <p>The Stiles Report specifically recommended that these adjacent lease parcels (which, for example were recently offered as UT1111-17, UT1111-18, UT1111-19, UT1111-20, and UT1111-22 (or their precursors)) be deferred from reoffering until a number of analyses could be conducted and conditions met. Although this report was directed at adjacent parcels, the analysis and critique applies equally well to these five parcels. The BLM has not met the conditions and the analyses have not been performed requested in the Stiles Report, therefore the BLM should remove these parcels from the November 2012 sale list.</p> <p>The Stiles Report indicated that the air quality analysis needed for the leasing of these parcels was lacking. As described above, the air quality analysis for these five parcels is still deficient and the BLM should not offer them for lease. See supra. Furthermore, the Stiles Report indicated that leasing of this area at this time was not needed to ensure the orderly development of minerals. Stiles Report at 9. It recommended that BLM wait until significant oil and gas development had commenced in the immediate area before it might be appropriate to lease these parcels. Id. The Price EA does not explain what development has taken place in the immediate vicinity of these five parcels that would now make leasing appropriate.</p>	<p># 339, 340, 341, 342 and 345, respectively). The Stiles Report states the following: <i>The Team recommends deferral to reconsider the impacts on documented wilderness characteristics and to provide opportunity to consider the cumulative impacts of expanded leasing in the area near or accessed (in part) by Nine Mile Canyon. Further, leasing should be deferred until the completion of NHPA consultation relating to the use of, and development near, Nine Mile Canyon. The findings of the ongoing West Tavaputs field development Environmental Impact Statement should also inform future leasing decisions for this area, especially in the case of air quality. Leasing in this area would extend leases into the generally unleased portion of lower Nine Mile Canyon and the expansive canyon network breaking toward Desolation Canyon. Should significant oil or gas production begin on other lands in the immediate vicinity, it may be appropriate to go forward with leasing, but at the present time it does not appear that leasing of this area is needed to ensure the orderly development of minerals.</i></p> <p>The BLM has met the conditions, analysis and critique for addressing parcels UT1112-015, UT1112-016, UT1112-019 and UT1112-020. The West Tavaputs Full Field Development EIS has concluded with a Record of Decision¹⁴ signed on July 2, 2010. In addition, a programmatic agreement was signed by all parties on January 5, 2010, which also includes several concurring parties. The stipulations and notices as identified in this EA’s Appendix A remain consistent with those of the West Tavaputs ROD, including those for air quality, cultural resources and BLM natural areas, and it’s associated programmatic agreement. Lease notices UT-LN-96 (Air Quality) and UT-LN-97 (West Tavaputs) were also included to notify a lease purchaser of requirements laid out in the West Tavaputs ROD.</p> <p>Specifically, the West Tavaputs ROD (pages 30 and 35) states that through development and implementation of the</p>

¹⁴ Accessed online at: http://www.blm.gov/ut/st/en/fo/price/energy/Oil_Gas/record_of_decision.html.

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		<p>programmatic agreement, the Advisory Council on Historic Preservation and the Utah State Historic Preservation Officer have agreed that the BLM fulfilled its statutory obligations under Section 106 of the National Historic Preservation Act. Under the Agency Preferred Alternative, the BLM addressed how effective the stipulations would be within the project area (including the area of the subject leases) and described the residual effects including mitigation measures. The programmatic agreement was carried forward as a COA under the Selected Alternative. Lastly, the signing of this programmatic agreement and its implementation concluded the Section 106 process.</p> <p>Lease notices UT-LN-96 and UT-LN-97 were included to inform a potential purchaser that the subject parcel is within the WTP project area and that BMPs will be most likely required at the development stage.</p> <p>As part of the WO IM-2010-117 leasing process, the ID team conducted site visits to the parcels and did not find any changed circumstances.</p> <p>Appendix M of the PFO Proposed RMP/Final EIS (page M-4) documents that in addition to the increased drilling activity, there remains significant interest in leasing within this area as evidenced by the recent oil and gas lease sale results. It also concludes that that future exploration and development are most likely to occur on the Wasatch (Emery/Book Cliffs CBNG Plays) and Tavaputs Plateau (page M-6).</p> <p>The area contains several existing leases and a producing gas field; therefore BLM believes these parcels are a logical progression of development of oil and gas in the area.</p>
7	<p>Parcels 13, 15, 25, and 42 are all located inside of or partially overlap areas identified by the BLM as containing wilderness characteristics.</p> <p>Secretarial Order 3310 indicates that it is the policy of the Department of the Interior to avoid impairment of lands inventoried to have wilderness characteristics. Although Congress</p>	<p>The WO IM-2011-154, Requirement to Conduct and Maintain Inventory Information for Wilderness Characteristics and to Consider Lands with Wilderness Characteristics in Land Use Plans, dated July 25, 2011, directs offices to continue to conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified lands with</p>

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	<p>has indicated that funds are not available for implementing this order, the Order has not been revoked and the Interior Department's policy remains unchanged. See Department of Defense and Full-Year Continuing Appropriations Act 2011, Pub. L. No. 112-010, § 1790 (stating that for the fiscal year ending September 30, 2011, none of the funds made available by this division or any other Act may be used to implement, administer, or enforce Secretarial Order No. 3310 issued by the Secretary of the Interior on December 22, 2010.) On June 1, the Secretary of the Interior responded to this legislation stating that "the BLM will not designate any lands as 'Wild Lands.'" Memo. from Ken Salazar, Sec'y of the Interior, to Bob Abbey, BLM (June, 1 2011). Thus the Secretary did not end Department's policy to avoid impairment of wilderness character lands. The BLM should not offer leases 13, 15, 25 or 42 because it would be contrary to the policy of Secretarial Order 3310. Following this policy would require no expenditure of money here and it would not entail the designation of Wild Lands, therefore it does not run afoul of the spending limitations or the Secretary's June 1 memo. This is entirely consistent with BLM's authority to manage and protect wilderness characteristics under FLPMA and BLM's Land Use Planning Handbook.</p> <p>Furthermore, the Secretary of the Interior's June 1, 2011, memorandum affirms BLM's obligation to inventory and consider wilderness characteristics when making project-level decisions. Here, BLM has already determined that these four parcels contain wilderness characteristics. Consequently, it must now fully consider those characteristics while planning for the November lease sale. The Vernal and price EAs do not fully consider these impacts.</p> <p>In order to fully consider wilderness characteristics in the context of this lease sale, the Secretary's memorandum requires the BLM to develop and evaluate a leasing alternative that fully protects lands with wilderness characteristics, either through parcel deferrals or NSO stipulations. Such an alternative would comply</p>	<p>wilderness characteristics in land use plans and when analyzing projects under the NEPA.</p> <p>BLM agrees that it is obligated to comply with FLPMA sections 201 and 202 and follow Departmental or Bureau policy.</p> <p>As stated, the BLM relied on wilderness characteristic inventories while preparing the 2008 RODs/RMPs. The methods utilized by the BLM at that time also remain consistent with requirements outlined in WO IM-2011-154.</p> <p>BLM describes the use of its 1999 lands with wilderness characteristics inventory. BLM fully considered and documented the extent to which the value and use of lands with wilderness characteristics would be foregone when it made its decision not to manage certain units as BLM natural areas in the RODs/RMPs. The impacts of this proposed action on non-WSA lands with wilderness characteristics are considered within the EAs.</p> <p>BLM Utah notes that in their Notice of Addendum No. 1, the Colorado State Office BLM did defer their subject parcels to allow time for further resource analysis. The unsigned FONSI states that all of parcel 6005 and portions of parcels 6003, 6004, 6006, and 6007 are deferred due to concerns regarding primitive recreation opportunities, not a lack of wilderness character inventory. Colorado BLM is currently in the planning process and has elected to defer leasing of their subject parcels while they compile and analyze level of inventory information that Utah BLM already has through the 2008 PFO Proposed RMP/Final EIS.</p> <p>The BLM has fully considered managing certain areas to protect, preserve, and maintain their wilderness characteristics. Price Field Office, for example analyzes WC within Alternative E, Proposed RMP/Final EIS. This information is summarized at page 14 of the PFO ROD/RMP. Specifically, BLM analyzed mineral leasing, including NSO, with the following categories (page 2-8, PFO Proposed RMP/FEIS):</p> <ul style="list-style-type: none"> • 0 acres open to oil and gas leasing subject to the standard

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	<p>with a key provision of IM 2010-117, which requires BLM to evaluate lease sale alternatives that address unresolved resource conflicts. In response to this requirement of the IM, BLM has consistently included alternatives in lease sale EAs that protect wilderness characteristics, even in lease sale EAs that postdate the congressional funding limitation on implementing the Wild Lands policy.</p>	<p>terms and conditions of the lease form</p> <ul style="list-style-type: none"> • 870,000 acres or 34 percent open to oil and gas leasing subject to minor constraints (timing limitations, CSU, lease notices) • 130,000 acres or 6 percent open to oil and gas leasing subject to major constraints (NSO) • 1,490,000 acres or 60 percent unavailable to leasing. <p>Under Section 201 and 201 of FLPMA, BLM is directed to conduct and maintain current inventories of public lands and the resources there-in; including wilderness characteristics. Data from these inventories are then used in resource analysis during land use plan revisions.</p> <p>Under this alternative, these acres were unavailable to mineral leasing and development, rights-of-way, woodcutting, and other surface disturbing activities. Management of non-WSA lands to preserve their wilderness characteristics precluded potentially beneficial actions such as fuels and vegetation treatments and other healthy lands initiatives, wildlife and range improvements, and the construction of recreation facilities. Many of the areas managed to protect wilderness characteristics in Alternative E had conflicts with high development potential areas for oil and gas. Some of this acreage was also currently leased for oil and gas and coal, thereby making it impractical to protect the wilderness characteristic values. BLM found that management of all the non-WSA lands with wilderness characteristics in Alternative E as overly restrictive on other resources and uses of the public lands and did not meet the intent of Energy Policy and Conservation Act (EPCA). The EPCA provides policy directing BLM to minimize impediments to oil and gas leasing and development, and this alternative does not meet that objective. Decisions were made off of those inventories. There has not been any change in circumstances to warrant the need to revisit those decisions made in the PFO ROD/RMP. Similar approaches are taken for the Vernal Field Office.</p>

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8	<p>BLM must comply with the requirements of IM 2010-117. In addition to directing BLM to fully analyze an alternative that would protect wilderness characteristics, see supra, IM 2010-117 directs BLM to “take into account” several “other considerations” during its evaluation of lease sale parcels, including (1) whether non-mineral resource values outweigh mineral development values in “undeveloped areas;” and (2) whether leasing will cause “unacceptable impacts” on units of the National Park System. Because several of the sale parcels are located in “undeveloped areas” and/or are likely to have impacts on visibility in national parks, BLM must evaluate both of these considerations in the EA. In doing so, the BLM should follow the example of Wyoming’s High Desert District Office, which recently included a separate discussion for the IM’s “other considerations” in a lease sale EA. When evaluating lease parcels, BLM should determine whether “non-mineral resource values are greater than potential mineral development values” in “undeveloped areas.” The seven parcels, at issue here, are located in undeveloped areas. Because these areas also have considerable “non-mineral resource values,” such as inventoried wilderness characteristics, important recreation and scenic values, and cultural resource values, the BLM must evaluate and determine whether they are outweighed by potential mineral development values. The BLM has not performed this weighing. This determination is a policy decision that is not dependent upon the economic values that may be assigned to competing resources and not necessarily to the combination of uses that will give the greatest economic return.</p>	<p>Where BLM natural areas were not selected in the planning processes, BLM found that certain inventoried areas contained other important resources and uses that would conflict with protection, preservation or maintenance of wilderness characteristics. BLM fully considered their value in light of other resources and uses including the presence of existing leases that would preclude management for wilderness characteristics. Likewise, BLM addressed recreation demands by providing SRMAs. Therefore, BLM has complied with the spirit and intent of WO IM-2010-117.</p> <p>The Utah BLM coordinated with the NPS for the November 2012 lease sale including the parcels in question and the NPS did not provide any comments or have any concerns with the parcels being placed on the preliminary list. Also there are not any National Parks near any of the seven parcels of interest to the commentor.</p>
9	<p>The Vernal and Price field offices did not update their visual resource inventory as part of the 2008 Vernal or Price RMPs. The BLM has been updating visual resource inventories for the field offices across the state, including the lands covered by these seven parcels. This updated information should be included in determining whether existing visual resource management classes are correct and oil and gas leasing stipulations are adequate to protect visual resources. In the face of this new information, BLM</p>	<p>BLM has reviewed the recent visual resource inventory reports prepared for the Vernal and Price field offices.</p> <p>The visual resource management categories remain as established in the 2008 RMPs.</p>

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	may be required to defer leasing until it prepares a new plan amendment to consider significant new information changing VRM categories.	
10	<p>Parcels 15, 16, 19, and 20 overlap with the Nine Mile Canyon ACEC. The BLM has not evaluated the potential impacts to this ACEC from development on these parcels. The Price EA incorrectly assumes that no surface occupancy (NSO) stipulations would prevent development on the portions of these parcels that overlap with the ACEC and suggests that these stipulations have no exceptions, waivers or modifications. However, that is not correct. As the Price EA itself later discloses, that NSO stipulation is subject to an exception. Price EA at App A. The Price EA must evaluate how potential development granted through this exception would impact the Nine Mile Canyon ACEC and its relevant and important values. Similarly, the Vernal EA erroneously assumes that impacts would be limited to a twenty acre portion of the parcel. Like the Price EA, the Vernal EA has not evaluated how these impacts might expand if the future operator were granted an exception and development took place on the lease outside the twenty acre area of impact. Leasing and development on these four parcels would not protect the relevant and important values of the Nine Mile Canyon ACEC and these parcels should therefore be deferred.</p> <p>Parcel 42 is located in the Red Creek Watershed ACEC. The Vernal EA makes clear that this parcel should not be leased. If leasing were to take place on this parcel it could possibly lead to some development and impacts on the parcel. Those impacts would lead to increased erosion and water contamination, according to the Vernal EA. The Red Creek Watershed ACEC was designated precisely to prevent this sort of activity, its relevant and important value being its watershed. New erosion from development on this parcel would adversely impact the watershed and should not be allowed. BLM must defer parcel 42 for this reason.</p>	<p>The Nine Mile Canyon ACEC intersects portions of parcels 15, 16, 19, and 20. The Proposed Plan/Final EIS addressed leasing activity within the Nine Mile Canyon ACEC. The commentor does not identify which R&I values have not been addressed or protected.</p> <p>BLM applies a NSO/CSU/TL stipulation (UT-S-23) in Vernal and a NSO stipulation (UT-S-319) in Price protecting the Nine Mile Canyon ACEC. As per the Price RMP Nine Mile Canyon ACEC Decision 10, oil and gas leasing is subject to major constraints (NSO). Exceptions to this stipulation can be applied but only through approval of the BLM and SHPO. There are no exceptions, waivers or modifications that could be applied to stipulations 23 or 24.</p> <p>As shown in appendix A in the Vernal EA, parcel 42 includes stipulation UT-S-24 (NSO/CSU/TL – Red Creek Watershed ACEC). Slopes and soils are managed by stipulations 96 and 100.</p>

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11	BLM has completely failed to analyze the potential impact of leasing parcels 15, 16, and 19 on the Nine Mile Canyon SRMA. Oil and gas development on these parcels, which is possible due to the exception to the NSO stipulation for each parcel would be incompatible with recreation management here.	BLM has updated the Checklist. As per the PFO ROD/RMP, recreation decision (REC-60), oil and gas will be open to leasing subject to minor constraints (timing limitations, controlled surface use, lease notices), except where the Nine Mile Canyon ACEC overlaps the SRMA. Where this overlap exists in the SRMA, the area will be open to leasing with major constraints (NSO). Outside of the SRMA, BLM finds the associated dispersed recreation opportunity to adequately incorporate public demands.
12	BLM must evaluate the wilderness characteristics of the entirety of parcel 25. Portions of this parcel were determined by the BLM in the Vernal RMP not to contain wilderness characteristics. However, the BLM has recently issued a new wilderness character inventory manual (Manual 6310) which contains new guidance not considered by the Vernal Field Office. The BLM must defer parcel 25 until such time it is able to perform a wilderness character inventory for the entire parcel. SUWA will provide BLM with documentation of this area's wilderness character beyond the current boundaries with wilderness characteristics that the BLM has identified.	BLM has no new information or citizen-provided documentation at this time which would cause us to reconsider the decision in the Vernal RMP. If such documentation is submitted in the future, it will be considered in accordance with Manual 6310 and all other applicable guidance.